

NORWICH SCIENCE FESTIVAL

11-18 FEBRUARY 2023

Presented by:
the
forum

Inspiring talks

Science after hours

Deep dives and debates

Intriguing discoveries

Cutting-edge research

Lots of free events

Family fun



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Join the conversation

- #NorwichSciFest
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- Norwich Science Festival
- Norwichsciencefestival

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the
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WELCOME

A message from Claire Mutimer, Producer

I'm so excited to share this incredible week of events with you. This is my first year producing this wonderful festival which is so full of ideas and hope for the future. I believe science is at the heart of everything we do and will hold the solutions to many of the challenges we currently face.

I'm keen to bust one myth straight off. Did you know there are as many talks and events aimed at adults as there are for children? This festival really is for everyone. We cover everything from the evolution of childhood and leaving the planet, to planetariums and vertical farming, plus much more.

So have a good look through this programme and book a talk on a subject that intrigues you. Learn something totally new, stretch your understanding and enjoy!

BOOKING INFORMATION

Don't miss out, book early for our events!

Many Festival events are drop-in where booking is not required. For bookable events, please book at norwichsciencefestival.co.uk unless otherwise specified in the event listing.

Refunds are not offered unless an event is cancelled or postponed. Registered carers are eligible for a free ticket. See norwichsciencefestival.co.uk for more information.

AGE RECOMMENDATIONS

We've included suggested minimum age recommendations, based on the content and level of understanding required. Everyone is welcome to any event (unless specified as adults only), but some will be more suited to the ages suggested. Children under 12 must be accompanied in talks, shows and workshops with a responsible adult. For talks and shows, accompanying adults will require a ticket.

All events are subject to change but are correct at time of printing. For up-to-date listings please see norwichsciencefestival.co.uk

WHAT TO EXPECT AT NSF



THE EXPLORIUM!

During the Festival, The Forum's Atrium and outdoor marquee will be transformed into The Explorium – a place for all to explore the world through science. Drop in 10.30am–4pm (11–18 Feb) for free, hands-on science fun for all ages!

QUIET HOUR: For those who require a calmer, less busy experience of The Explorium, book into our Quiet Hour between 9.30am–10.30am each day – booking required via norwichsciencefestival.co.uk

SCIENCE SATELLITES

Pop-up events around Norfolk



This year we're taking science fun further, with 'Science Satellites' events. There's plenty on offer at East Norfolk Sixth Form College in Gorleston-on-Sea (see p23) and Gresham's in Holt (see p32). All the Science Satellites are mini pop-up festivals, and are perfect for families, with lots of hands-on activities, super shows and fun workshops.

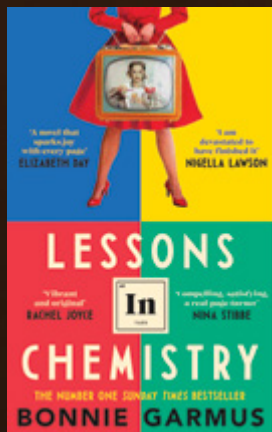
FAMILY EVENTS



As well as free, family activities in The Explorium each day, there's plenty of family talks, shows and workshops throughout the Festival – just look out for the Family Event logo.

We hope you enjoy the Festival!





Lessons in Chemistry

BONNIE GARMUS IN CONVERSATION
WITH NAOMI WOOD

FRI 17 FEB
7pm–8pm

Lessons in Chemistry is the bestselling novel by Bonnie Garmus that will make you laugh, cry, and reconsider a woman's place in the world – especially in STEM. Translated into forty languages, it is nothing short of a global phenomenon.

Set in the 1960s, the novel tells the story of genius chemist Elizabeth Zott, who confronts

sexism in science, and then finds herself the unlikely star of America's most popular cooking show.

Bonnie Garmus is a copywriter and creative director who has worked widely in the fields of technology, medicine, and education. She's an open-water swimmer, a rower, and mother to two amazing daughters. Born in California and most recently from Seattle, she currently lives in London with her husband and her dog, 99.

Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £12
Age: 12+



Nine Lessons for Norwich Science Festival

WITH DR HELEN CZERSKI
AND FRIENDS

FRI 17 FEB
8.30pm–10.30pm

The Cosmic Shambles Network is excited to bring a special edition of this science cabaret show to Norwich Science Festival, hosted by Dr Helen Czerski with special guests including Dr Adam Rutherford, comedian Bec Hill, Prof Chris Jackson and music from Soft Lad (from Self Esteem). Expect weird science, quirky facts, lots of laughter and a great night out!

Venue: The Halls
Cost: £15
Age: 12+



Control: The Dark History and Troubling Present of Eugenics

WITH DR ADAM
RUTHERFORD

FRI 17 FEB
5pm–6pm

Throughout history, people have sought to improve society by controlling who can marry, who can procreate and who is permitted to live. Adam Rutherford tells the story of attempts by the powerful to dictate reproduction, regulate the interface of genetics and society, and how these beliefs paved the way to Auschwitz. Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £12
Age: 15+



DNA Detective

WITH PROF TURI KING

SUN 12 FEB
7pm–8pm

Prof Turi King is the expert geneticist on the hit BBC series DNA Family Secrets. In this talk she will chart the rise in the use of DNA in genealogy and forensics for everything from tracing long lost family members to catching criminals. Her examples will include the first immigration case through to identifying the bones of King Richard III. Turi is a scientist, presenter, speaker and author who uses genetics in the fields of forensics, history, genealogy and archaeology. She is perhaps best known for her work leading the genetics and identification of the remains of King Richard III. Plus book signing.

Venue: Norwich Arts Centre
Cost: £15 + booking fee
Age: 12+
Book: norwichartscentre.co.uk



Credit: Philip Varoutive

The Devil You Know

ENCOUNTERS IN FORENSIC PSYCHIATRY WITH DR GWEN ADSHEAD

TUE 14 FEB
1pm–2pm

Join Dr Gwen Adshead, author of bestselling book *The Devil You Know*, and one of Britain's leading forensic psychiatrists, for a fascinating insight into criminal minds which argues for rehabilitation over revenge, compassion over condemnation. Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £10
Age: 18+



Rude science

WITH GASTRONAUT STEFAN GATES

SAT 18 FEB
11am–12pm,
2.30pm–3.30pm

Stefan Gates' explosive new 2023 show reveals everything you always wanted to know about the revolting (but vital) science that no-one ever talks about. Expect zits, burps, farts, snot, scabs, pee, vomit, snot, blood, sweat and tears, all brought to life with stunts, rockets, fart machines, sneeze machines and enormous bottoms. There's actually no such thing as rude science – just science you haven't made friends with yet.

Venue: Norwich Theatre Playhouse
Cost: £13 adults, £11 children + booking fee
Age: 7+
Book: norwichtheatre.org

The biggest science quiz show EVER

WITH PROF BEN GARROD & MARK THOMPSON

SUN 12 FEB
3pm–4pm

Do you think you know your Megalodon from your T-Rex? Or what happens when you add hydrogen peroxide to potassium iodide? Grab your friends and family and head along to this fun-packed show with two of our best-known presenters Mark Thompson and Ben Garrod. Packed to the brim with explosive chemical reactions, answers to some of life's biggest questions, live experiments, audience participation and tonnes of fun science!

Venue: Sir Isaac Newton Sixth Form
Cost: £7
Age: 7+

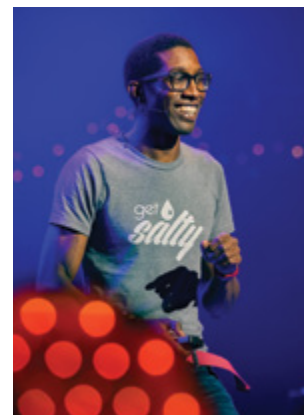
Big and small

WITH ALEX HOLMES & AFFELIA WIBISONO

THU 16 FEB
11am–12pm

Big and Small is an interactive game show where you help astronomer Affelia and biochemist Alex settle a very important scientific argument: which is superior – big things like planets, or small things like proteins! Think you have what it takes to make the hard-hitting decisions?

Venue: Norwich School, Blake Studio
Cost: £5
Age: 6+



Hot times in deep time

THE GEOLOGICAL RECORD OF EARTH CLIMATE WITH PROF CHRIS JACKSON

FRI 17 FEB
1pm–2pm

The Earth is warming, with present and future changes in our climate a global concern. Geologist and 2020 RI Christmas Lecturer Professor Chris Jackson looks at the geological record of climate change and how this can help us better understand our present and future climate. Presented by the Cosmic Shambles Network.

Venue: Norwich School, Blake Studio
Cost: £7
Age: 12+



Physics of life

WITH SARAH COSGRIFF

THU 16 FEB
1pm–2pm

Take a journey with Sarah Cosgriff to see the world of biology through the lens of physics. Discover how physics allows us to see microscopic organisms, understand how living things adapt to their environments, and help astronauts get to outer space. Where will the combined forces of biology and physics take you?

Venue: The Forum, Auditorium
Cost: £5
Age: 8+

The Z list dead list

WITH ISZI LAWRENCE

THU 16 FEB
5pm–6pm

Who proved the scientific method using magic? Did a woman really give birth to rabbits? Why did one man put trousers on frogs? Author and comedian Iszi Lawrence (BBC R4, Netflix) introduces you to the obscure, murderous and revolting scientists and their unusual hypotheses from history.

Venue: Norwich School, Blake Studio
Cost: £9
Age: 12+

The psychology of climate change

WITH CAROLINE HICKMAN, IRENE LORENZONI & STEPHAN LEWANDOWSKY

FRI 17 FEB
3pm–4pm

How do we feel about climate change? How can we cope with the barrage of information on this emotive subject? We need to understand human behaviour so we can determine the most effective ways of fighting climate change. Join psychotherapist Caroline Hickman, social scientist Irene Lorenzoni and cognitive scientist Stephan Lewandowsky to explore the psychology of climate change.

Venue: Norwich School, Blake Studio
Cost: £6
Age: 12+

SCIENCE AFTER SIX

For adults only, we have plenty of laugh-along lectures, taboo topics, deep dives and chances to get involved. Come along and learn something new!



Credit: Marah Bashir

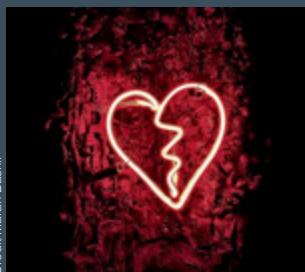
Boogie on the brain

THE PSYCHOLOGY OF DANCING WITH DR PETER LOVATT

TUE 14 FEB
8pm–10.30pm

Don't forget your dancing shoes for this fun, interactive evening of dance, psychology and science! Dr Peter Lovatt (aka Dr Dance) explores why we love to boogie in this unique evening – he'll take you through key ideas in cognitive psychology and along the way teach you some fun, simple dance routines! Peter is a former professional dancer and one of the world's leading Dance Psychologists; he's spent decades studying the science of human behaviour and dancing. Come along this Valentine's evening on your own or as a couple, have a drink, and enjoy this alternative night out!

Venue: The Halls
Cost: £15



Heartbreak:

NECESSARY PROCESS OR BYPRODUCT OF LOVE? WITH ROSIE WILBY, PROF VIREN SWAMI & PROF BARBARA SAHAKIAN

TUE 14 FEB
7pm–8pm

Heartbreak is a near-universal experience, but what is it? Why does it happen, and what can we do to get through it? This Valentine's Day, neuroscientist Prof Barbara Sahakian and psychologist Prof Viren Swami join comedian and author of The Breakup Monologues Rosie Wilby to discuss these questions and more. Plus book signing.

Venue: Norwich Arts Centre
Cost: £10 + booking fee
Book: norwichartscentre.co.uk



Science Shambles podcast LIVE

WITH DR HELEN CZERSKI & PROF MARK MIODOWNIK

THU 16 FEB
7pm–8pm

Science Shambles is the podcast where world leading scientists chat about science. From cutting-edge research and big ideas to popular science books and documentaries, everything is open for discussion. Like everything at The Cosmic Shambles Network the approach is fun, open and accessible for everyone whether you've got a PhD in astrophysics or are simply curious about how this universe works. In this live recording, host Dr Helen Czerski talks to materials scientist and engineer Prof Mark Miodownik. Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £8.50



Superspy Science

SCIENCE, DEATH AND TECH IN THE WORLD OF JAMES BOND WITH DR KATHRYN HARKUP

THU 16 FEB 7pm–8pm

Science and technology have always been central to the world of James Bond. Kathryn Harkup explores 007's exploits from the practicalities of building a volcano-based lair, to the dangers of being covered in gold paint, and whether bacteria, bombs, or poison is the best plan for taking over the world. Plus book signing.

Venue: The Forum, Auditorium
Cost: £8

Out Thinkers CELEBRATING LGBTQ+ IN STEM

SAT 11 FEB
8pm–10pm

Whether you're part of the LGBTQ+ community or an ally, join us to celebrate the fantastic and diverse STEM community in Norfolk with a series of talks and the chance to network with local LGBTQ+ scientists.

Venue: The Forum, Cafe Bar Marzano
Cost: Free, booking required

Pint of Science special

SEX CELLS: LIVE FAST AND DIE YOUNG

WED 15 FEB
7.30pm–9.30pm

Join us for an evening of talks on the topics of reproduction and ageing where you'll hear about the latest findings from UEA researchers. Learn about how frisky plants can be, how worms are teaching us the secrets to living longer, and finally how our environment is affecting fertility. Doors 7pm.

Venue: The Forum, Cafe Bar Marzano
Cost: £5

Book: pintofscience.co.uk/event/pint-of-science-special-1



Life after cancer + SPECIAL PREVIEW OF SHORT FILM 'ROSE'

MON 13 FEB 6.30pm–8pm

Join Big C Cancer Charity and exclusive guests for a special preview of short film 'Rose', followed by a Q&A with the Director, Charlotte Couture & Producer, Tom Scurr. There will also be a panel discussion on the film's themes, how cancer is portrayed in film, and the reality of life after cancer.

Venue: NUA, Duke Street Lecture Theatre
Cost: £10 – proceeds to Big C
Age: 16+
Book: big-c.co.uk



How to leave a planet

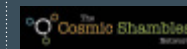
WITH PROF SUZIE IMBER AND DALLAS CAMPBELL

THU 16 FEB
8.30pm–9.30pm

As long as humans have looked into the night sky, we've wondered how we might explore this most hostile of realms. Join Dallas and Suzie as they take you on the ultimate tour of the history and science of our quest to explore the cosmos – from our first tentative footsteps, to the latest missions that are expanding our knowledge of the universe. Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £10

Presented by:





FAMILY EVENT

Inspired @ Sir Isaac Newton Sixth Form

SAT 4 FEB
10am–3pm

A free family STEMM day! Take part in a range of science and maths related activities, experiments and competitions. From bottle rockets to bath bombs, mini volcanoes to heart dissections – there is something for the entire family to enjoy! Join in with our science shows and take home your inventions.

Venue: Sir Isaac Newton Sixth Form

Cost: Free, drop-in
Age: 5+

Long Covid REASONS, RESEARCH & RECOVERY

WED 8 FEB
5pm–6pm

As the pandemic subsides, millions of people around the world are now left debilitated by Long Covid. Our panel look at the possible theories behind the syndrome, the latest research, and pathways to recovery. With cardiologists Dr Boon Lim and Prof Vassilios Vassiliou, General Practitioner Dr Sarah Glynn, Long Covid recovery programme creator Suzy Bolt, and hosted by writer and broadcaster Vivienne Parry.

Venue: Online
Cost: Free, booking required
Age: 15+



FAMILY EVENT

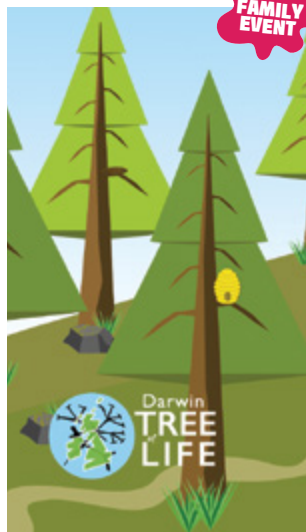
Straight up farming

SAT 11–SAT 18 FEB
10am–4pm

Step into a farm of the future where food is grown without soil. Find out how vertical farms work and tell us what you think. Straight up farming is a new installation to showcase vertical farming – a new technology that is already changing the way we grow crops and promises to revolutionise food production in the next decade.

Plus look out for discussions and debates in the vertical farm on the future of food.

Venue: The Forum, Gallery
Cost: Free, drop-in
Age: 5+



FAMILY EVENT

Decoding the DNA tree of life

SAT 11–SAT 18 FEB
10.30am–4pm, 9.30–10.30am quiet time
(booking required)

Join the Earlham Institute to discover the Darwin Tree of Life, one of the biggest DNA sequencing projects in the world. Search our interactive stand for codes to help you identify unique species found around Britain and Ireland, and speak with local researchers working on this landmark project.

Venue: The Forum, Explorium
Cost: Free, drop-in
Age: 7+



CHANTRY PLACE

Head over the road to our friends at Chantry Place for some free dinosaur action, shopping, and more.



FAMILY EVENT

Extraordinary Extinct™ Dinosaur Trail

SAT 4–SAT 18 FEB
Mon–Sat 9am–6pm,
Sun 10am–4.30pm

Head out on an expedition around Chantry Place to find eight Extraordinary Extinct™ dinosaurs and prehistoric creatures. Discover some fascinating fossil facts, complete your trail sheet and pop in the competition box at The Forum to be in with a chance of winning a £100 H&M voucher, thanks to Chantry Place, and goodies from Dodo and Dinosaur! Pick up a trail map from The Forum or Langleys in Chantry Place.

Venue: Chantry Place
Cost: Free, drop-in
Age: All ages



Credit: Kilian Hohen

FAMILY EVENT

Museum of plastic

SAT 11–SAT 18 FEB
10am–4pm

Imagine a future without plastic pollution! Have a go at the Fantastic Plastic Litter Arcade, explore the interactive exhibits, and contribute potential solutions to the plastics problem. This exhibition explores the environmental and social harms caused by our current dependence on single-use plastics, and presents possible steps we could take to eradicate them.

Venue: Chantry Place, Dining Terrace
Cost: Free, drop-in
Age: All ages



Plus meet our FRIENDLY DINO CHARACTERS

ON SAT 11 FEBRUARY
between 10.30am and 4pm on Chantry Square



All the events here are sponsored by:

 Chantry Place



Planetarium

EXPLORER DOME
SCIENCE SHOWS



WED 15–SAT 18 FEB

Various times, see website

Step inside the planetarium to see shows on the wonders of space and the power of light! Explorer Dome's shows are lively, interactive and entertaining as well as full of science, and there are sessions suitable for different ages and also for SEN too!

Venue: Norwich School, Refectory

Cost: £5

Age: Shows for different ages, see website

Sponsored by:



NORWICH SCHOOL

Esports tournament



MON 13, TUE 14
& THU 16 FEB
10am–5pm

Calling all gamers! We've teamed up with OLL Games and Albion Games to bring you an esports competition! Try your hand at Mario Kart, Rocket League or Smash Bros Ultimate in Gorleston on Monday, Norwich on Tuesday, and if you're lucky, the final on Thursday back in Gorleston. Plus hear about careers in gaming at the final.

Venue: Mon & Thu – East Norfolk Sixth Form College, Tue – Albion Games Norwich

Cost: Free to play in the morning; £4 to enter tournament

Age: Under 18s

Illustrating science

WITH REBECCA OSBORNE

SAT 11–SAT 18 FEB
Mon–Fri 10am–7pm,
Sat 9am–5pm, Sun
10.30am–4.30pm

An exhibition that captures science events in Norwich over the years, drawn by illustrator Rebecca Osborne. Rebecca's live graphics record the essence of every event and distil it into an accessible format for everyone to enjoy. She will be illustrating events during this year's Festival too.

Venue: Millennium Library, Foyer

Cost: Free, drop-in

Age: All ages

The secret life of ponds

MON 13–SAT 18 FEB
10.30am–4pm

Explore the Secret Life of Ponds with us. Listen to three pieces exploring the importance of pond restoration for nature recovery in a climate change context. The Norfolk Ponds Project brings together three sound artists and poets to respond to their experience of farmland pond restoration and the UCL research behind it.

Venue: The Forum, Explorium

Cost: Free, drop-in

Age: All ages



Fabulous food!

SAT 11, MON 13
–SAT 18 FEB
10am–3.30pm



We are being guided by our stomachs as we link up with Norwich Science Festival this February half term! Join us at Norwich Castle to explore our fabulous museum collections through the theme of food. We hope you're hungry!

Venue: Norwich Castle

Cost: Activities included museum admission

Age: All ages



BUGS, BIRDS AND BEASTS DAY



THE EXPLORIUM!

SAT 11 FEB
10.30am–4pm, drop-in
Quiet Hour: 9.30am–
10.30am, booking required

Get ready for a day of hands-on fun exploring the wonders of the natural world, from the smallest bugs, through to our feathered friends, to the biggest of beasts in the wild. Zoom in on bugs, beetles, and butterflies, discover Norfolk's wonderful wildlife, visit the bug zoo and more!

Venue: The Forum, Explorium

Cost: Free

Age: All ages

Sponsored by:



Playdough poo detectives

SAT 11 FEB
10am–11am,
11.15am–12.15pm,
1pm–2pm,
2.15pm–3.15pm



Become a poo detective to investigate the size, shape, colour and contents of different animals' poo. Can you tell if an animal is an omnivore, carnivore or herbivore by dissecting their (pretend) playdough poo?

Venue: Sir Isaac Newton Sixth Form

Cost: £5

Age: 5+



Bee biodiversity bonanza

SAT 11 FEB
11am–12pm

Learn about the beautiful bees found in your garden, and make every visit outdoors an exciting safari! Come along to discover more about the 270 species of bee in the UK, and how scientists in Norwich are using DNA to study them, with Dr Will Nash.

Venue: The Forum, Auditorium

Cost: Free, booking required

Age: 10+





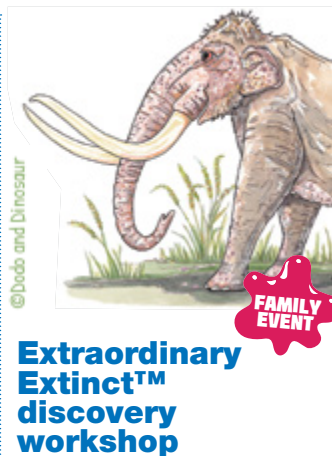
A Bug's World

WITH ERICA MCALISTER

SAT 11 FEB
11am–12pm

Did you know that flies were detectives? A moth lives on the back of a sloth? Or that there is a wasp smaller than a full stop? Come along and hear all sorts of stories about these fun and fascinating creatures from the Natural History Museum's Dr Erica McAlister. Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £5
Age: 5+



Extraordinary Extinct™ discovery workshop

SAT 11 FEB
11am–12pm

WORK SHOP

Join authors Jill Michelle Smith and Jennifer Watson from Dodo and Dinosaur for a reading of their colourful book 'An A-Z of Extraordinary Extinct Creatures'. Discover some of the earth's forgotten dinosaurs, birds, reptiles and mammals, before taking part in fun activities to fuel your little one's fossil fascination!

Venue: Millennium Library, Business & IP Centre Room
Cost: £6.50 per family group, inc. free 'An A-Z of Extraordinary Extinct Creatures' book
Age: 3+



Animal dissection live

WITH PROF BEN GARROD & DR JESS FRENCH

SAT 11 FEB
11am–2pm

Join evolutionary biologist Prof Ben Garrod and zoologist Dr Jess French (Radio 4's Wild Inside) in this scientific dissection to reveal the inner workings of an animal. Please note that the animal died of natural causes and has been donated for the purpose of education and research.

Venue: The Forum, outside. Plus online
Cost: Free, drop-in
Age: Parental advisory



Much ado about nothing

WITH JAMES LOWEN & HELEN PILCHER

SAT 11 FEB
1pm–2pm

James Lowen undertook an intoxicating, year-long quest to celebrate Britain's rare and remarkable moths. In this conversation with science writer, presenter and moth-lover Helen Pilcher, he challenges our preconceptions of moths as clothes-munching, plant-destroying pests. Plus book signing.

Venue: The Forum, Auditorium
Cost: £6
Age: 12+



Wonderdog!

HOW THE SCIENCE OF DOGS HAS CHANGED THE SCIENCE OF ANIMAL MINDS

WITH JULES HOWARD

SAT 11 FEB
1pm–2pm

What do dogs know and understand of their world? And what do they really think of us? Join zoology correspondent and Guardian writer Jules Howard, author of Wonderdog, in this celebration of the role that dogs are playing in the science of animal minds. Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £6.50
Age: 12+

Curlews, corncrakes and cranes

SAT 11 FEB
1pm–2pm

Chrissie Kelley from Pensthorpe Conservation Trust and Dr Sam Franks from BTO will discuss the amazing curlew project, the tracking data and what countries the curlews have travelled to since release. Plus updates on other projects.

Venue: Millennium Library, Heritage Room
Cost: Free, booking required
Age: 8+



Saving the white-clawed crayfish

SAT 11 FEB
2pm–3pm

Norfolk is one of the last remaining strongholds of white-clawed crayfish, an incredible keystone species of river habitats that is listed as endangered throughout its range. Join Norfolk Rivers Trust and the Zoological Society of East Anglia to discover why these native freshwater creatures are so special, and hear what's being done to build resilience in local populations from habitat restoration to the installation of a rearing hatchery.

Venue: Millennium Library, Business & IP Centre Room
Cost: Free, booking required
Age: 10+



FAMILY
EVENT

Professor Slug's House of Bugs

SAT 11 FEB

All sorts of bugs are seeking help from Professor Slug and his fellow experts (that's you, the audience!) Can you help them get as strong as an ant? Can you teach a bee how to buzz? And help a dung beetle make a poeey perfume for its big date...? Will you solve these buggy problems before the Queen Bee arrives, or will a swarm of honey-hungry wasps wreak havoc?

An interactive show packed full of colourful puppets, catchy songs, and educational info about the wonderful world of bugs.

Age: 3+

FIRST SHOW

Time: 10.30am–11.30am

Venue: Diss Corn Hall

Cost: £8

Book: thecornhall.co.uk / 01379 652241

SECOND SHOW

Time: 3pm–4pm

Venue: The Halls

Cost: £8, or £25 family ticket

Book: thehallsnorwich.com



FAMILY
EVENT

Credit: Adrian White

Animal Top Trumps

WITH PROF BEN GARROD
& LIZZIE DALY

SAT 11 FEB
3pm–4pm

Are you team 'living' or team 'dead'? Would a rhino win a fight with a T. rex? Which was the weirdest animal ever? BBC Earth Unplugged's Lizzie Daly and TV biologist Prof Ben Garrod go head-to-head in a bid to claim their team as the winners of the animal kingdom. Compare skeletons, teeth, behaviours and lifestyles in this energetic battle between modern-day animals and dinosaurs. Plus book signing.

Venue: Norwich School,
Blake Studio

Cost: £7

Age: 5+

Book: norwichsciencefestival.co.uk



Urban nature: creating a wilder Norwich for all

WITH HELEN BACZKOWSKA,
FLORENCE WILKINSON,
DAVID LINDO & ELLEN MILES

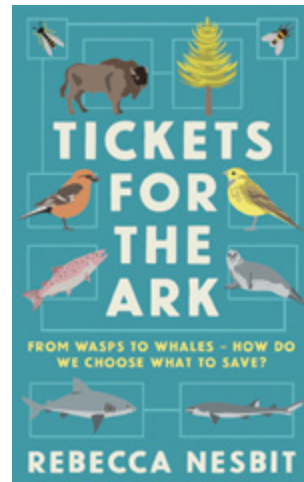
SAT 11 FEB
3pm–4pm

Over 80% of the UK population live in urban areas. This is projected to rise to 92% by 2030, leading to larger cities and more challenges for wildlife. Discover the incredible nature found in our towns and cities, what we can do to help it thrive and why we need to make sure everyone has access to green spaces, with Norfolk Wildlife Trust's (NWT) Head of Conservation, Helen Baczkowska in conversation with Florence Wilkinson (Wild City), David Lindo (Urban Birder) and Ellen Miles (Nature is a Human Right). Plus book signing. All donations will support NWT's Sweet Briar Nature Reserve Project.

Venue: The Forum, Auditorium

Cost: Donate What You Can (£4, £8, £12)

Age: 15+



Tickets for the Ark

WITH REBECCA NESBIT

SAT 11 FEB
5pm–6pm

How do we choose which species to save? Join Rebecca Nesbit to explore how to best use conservation resources, tackling thorny issues as we shape the future of the natural world. Perhaps the wasps we hate are more valuable than the bees we love. Plus book signing.

Venue: Norwich School,
Blake Studio

Cost: £6

Age: 15+



Norfolk's wonderful 150

WITH TONY LEECH

SAT 11 FEB
5pm–6pm

Hear the story of Norfolk's diverse wildlife with Tony Leech, from the common collared dove to the more obscure Breckland Leatherbug! In celebration of Norfolk & Norwich Naturalists' Society's 150th anniversary, naturalists were invited to contribute images and accounts of 150 species which were special to Norfolk, resulting in the book Norfolk's Wonderful 150.

Venue: The Forum, Auditorium

Cost: Free, booking required

Age: 7+



Beasts of the Future Wild

CREATIVE WRITING
WORKSHOP

SAT 11 FEB
2pm–4pm

WORK
SHOP

How might our much-loved animals adapt to the landscapes of the future? How might traditional nature writers, in all their curiosity and wonder, investigate? In this playful creative writing workshop, you will explore a future full of wild surprises with UEA lecturer Dr Jos Smith. A fantastic opportunity for all levels of writing ability or experience, whether aspiring wordsmiths or established authors. Kindly supported by AHRC funding.

Venue: Millennium Library,
Vernon Castle Room

Cost: £4

Age: 15+





The acoustics of musical instruments

+ CONCERT BY NORWICH PHILHARMONIC ORCHESTRA

SAT 11 FEB
Talk: 6.30pm–7pm
Concert: 7.30pm–9.30pm

Principal Horn, Andy Thompson of Adrian James Acoustics, will give a free talk for Norwich Philharmonic Orchestra concert ticketholders on the science of sound and how instruments make such stunning music. 50 seats available – first come, first served. For the concert, Matthew Andrews conducts music from Prokofiev, Swiss composer Frank Martin, and Rachmaninov.

Venue: The Halls
Cost: £13–£19 adults, £8 students/Under 26s
Age: 12+
Book: norwichphil.org.uk



Life Changing

HOW HUMANS ARE ALTERING LIFE ON EARTH WITH HELEN PILCHER

SAT 11 FEB
7pm–8pm

Ever since our species evolved, we have been tinkering with nature and altering the course of evolution. Now we share our planet with genetically modified wolves, pizzly bears (a grizzly–polar bear hybrid) and cloned polo ponies. Join Helen as she explores the legacy created by this evolutionary mischief-making and how humans are changing life on Earth. Plus book signing.

Venue: The Forum, Auditorium
Cost: £6
Age: 15+

Wildlife fieldwork: the grubby and X-rated truth

WITH NICK ACHESON & DR ERICA MCALISTER

SAT 11 FEB
7pm–8pm

Dr Erica McAlister and Nick Acheson have spent years of their lives in the tropics studying wildlife. Both natural raconteurs, in this light-hearted (at times riotous) show, they recount their goriest, scariest, funniest and most outrageous wild experiences in rainforests, on icy mountainsides, in deserts and on ocean waves. Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £7
Age: 15+

Out Thinkers CELEBRATING LGBTQ+ IN STEM

SAT 11 FEB
8pm–10pm

See p9

FOOD AND FARMING DAY



THE EXPLORIUM!

SUN 12 FEB
10.30am–4pm, drop-in
Quiet Hour: 9.30am–10.30am, booking required

Come along and discover the journey our food takes, from fields and farms all the way to being on the end of our forks! Learn about food miles, meet native rare breed sheep, discover future foods such as seaweed, and more.

Venue: The Forum, Explorium
Cost: Free
Age: All ages

Trees in Winter

SUN 12 & TUE 14 FEB
10am–3.30pm

A day course exploring the fascinating world of trees. In winter, trees can be identified by their buds, twigs and bark and we will use these features to introduce you to our native species. This workshop includes indoor and outdoor sessions as we go in search of some Sheringham Park veterans.

Venue: National Trust Sheringham Park
Cost: £25
Age: 15+
Book: nationaltrust.org.uk/sheringham-park



WORK SHOP

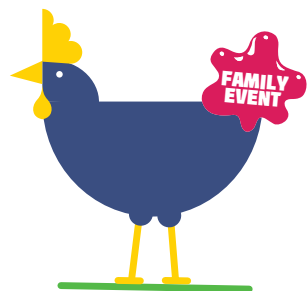
Super beetles!

THE IMPORTANCE OF THE HUMBLE DUNG BEETLE WITH SALLY-ANN SPENCE

SUN 12 FEB
11am–12pm

Delve into the wonder of dung beetles, discover why they are fantastic for farming, and learn the difference between 'dwellers', 'stealers' and 'tunnellers'. These unassuming beetles are hugely important, acting as bio-indicators for soil, pasture and livestock health, and playing a major role in helping farmers revitalise their land and crops.

Venue: Norwich School, Blake Studio
Cost: £5
Age: 7+



What's up with the chicken's gut?

SUN 12 FEB
11am–12pm

WORK
SHOP

In this family show, Bushra Schuitemaker, an expert in chicken poo, shares how she got interested in chickens, and why she is obsessed with them and what comes out of their bottoms! She'll explain how their gut and microbiome works; then get ready for her favourite game of chickens or Dickens!

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 10+



Kitchen science

SUN 12 FEB
11am–12pm, 1pm–2pm

Expect giggles, gasps and some funny faces in these fun and simple experiments. The experiments use ingredients and equipment commonly found in kitchen cupboards, with no elaborate or fancy science equipment.

Venue: St Peter Mancroft, Octagon Room
Cost: £5
Age: 5–12



Paper making with the grass pea plant

SUN 12 FEB
12pm–1pm

WORK
SHOP

An introduction into utilising the agri-residue of the grass pea plant to make paper. Participants will learn about the historical origins of cotton rag paper making, and have a go at turning grass pea paper slurry into paper samples they can take home!

Venue: Millennium Library, Vernon Castle Room
Cost: £8
Age: 10+

Reduce your food waste at home

SUN 12 FEB
12pm–1pm

FAMILY
EVENT

Find out more about reducing your food waste at home, and the best way to get rid of food waste without it going to landfill, from your local council.

Venue: Millennium Library, Business & IP Centre Room
Cost: Free, booking required
Age: 7+



Credit: Jessica Daly

The secret lives of animals

WITH LIZZIE DALY

SUN 12 FEB
1pm–2pm

FAMILY
EVENT

Animal movement scientist and wildlife broadcaster Lizzie Daly takes you on a journey following in the footprints of wildlife from across the world. With genuine tales of tagged and tracked species, this talk will showcase some of the new challenges our wildlife faces in a changing world.

Venue: Sir Isaac Newton Sixth Form
Cost: £6
Age: 10+

The soil factory

WHAT IS SOIL AND CAN WE MAKE MORE?

SUN 12 FEB
1pm–2pm

Soil is fundamental to our existence, but what exactly is soil? What does it do for us? And what can we do to protect it in the face of climate change, erosion and pollution? Find out in this engaging talk with Professor Brian Reid.

Venue: Norwich School, Blake Studio
Cost: Free, booking required
Age: 12+



Food glorious food

A SENSORY EXPLORATION OF THE WAY WE EXPERIENCE FOOD WITH DR DUNCAN GASKIN

SUN 12 FEB
1pm–2pm

We all know the food we like, but do we know why? Join Dr Duncan Gaskin in an interactive sensory exploration of the realms of taste and flavour, and how they combine with our other senses and our mind to produce the full food experience.

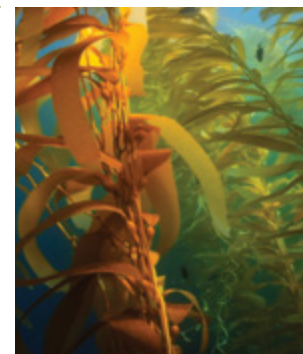
Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 7+

Plant breeding with genetic technology

SUN 12 FEB
2pm–3pm

Access to the complete genome sequence of most food crops and new DNA editing tools allow us to make targeted changes to the genetic sequence of plants. Senior Scientist Dr Penny Hundleby from the John Innes Centre explains how these precision breeding techniques work and how we can exploit them.

Venue: Millennium Library, Business & IP Centre Room
Cost: Free, booking required
Age: 15+



Super Seaweed

FARMING FUTURE FOODS

SUN 12 FEB
3pm–4pm

Join us on an aquatic, macroalgae journey, from designer cosmetics to reducing cow burps! Discover how seaweed from our shores is used in a kaleidoscope of familiar products, and how it can help reduce greenhouse gas emissions, feed the land, and improve our diets!

Venue: Norwich School, Blake Studio
Cost: Free, booking required
Age: 7+



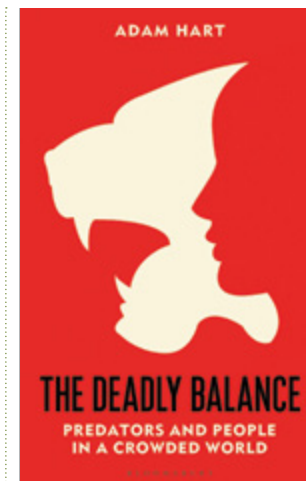
The biggest science quiz show EVER

WITH PROF BEN GARROD & MARK THOMPSON

SUN 12 FEB
3pm–4pm

See p6

FAMILY
EVENT



The Deadly Balance

PREDATORS AND PEOPLE IN A CROWDED WORLD WITH PROF ADAM HART

SUN 12 FEB
3pm–4pm

The predators that can hunt, kill and eat us occupy a unique place in the human psyche. In this talk, biologist Adam Hart looks at our relationship with these animals from a conservation perspective. He explores the complex relationships we have with predators, and investigates what happens when humans become prey. Plus book signing.

Venue: The Forum, Auditorium
Cost: £6
Age: 12+



Rare breed sheep

SUN 12 FEB
4pm–5pm

Join us to learn more about Southdown Sheep, one of the oldest British sheep breeds! Learn from an expert from the Rare Breeds Survival Trust (RBST) about the breed and their adaptations. Plus see our rare breed ewe and lamb during the day outside The Forum.

Venue: Millennium Library, Vernon Castle Room
Cost: Free, booking required
Age: 7+



How do we make farming sustainable?

WITH EMILY NORTON,
ROSIE BEGG, NICK PADWICK
& NICK HOOD

SUN 12 FEB
5pm–6pm

Farmers today face climate, economic and environmental challenges. Can blue-sky thinking and technology offer a solution? This highly experienced panel will discuss ways to build resilience and productivity whilst meeting the needs of cash-strapped consumers. Rosie Begg, fruit farmer, Nick Hood, cattle and arable farmer, Nick Padwick, director of Wild Ken Hill regenerative farming project, and Emily Norton, Head of Rural Research at Savills, will share their experiences in a lively discussion on the future of farming in Norfolk. Followed by Q&A.

Venue: Norwich School, Blake Studio
Cost: Free, booking required
Age: 12+



Nature-friendly grape-eating and wine-drinking

SUN 12 FEB
5pm–6pm

In Britain, grapes and wine are popular commodities, but how does their production affect nature? Join UEA researcher Natalia Zielonka on a journey through Brazilian and British vineyards to gain an insight into the interplay between nature and farming, and to consider how sustainable indulgence may be possible.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 15+



DNA Detective WITH PROF TURI KING

SUN 12 FEB
7pm–8pm

See page p5

FAMILY
EVENT



EAST NORFOLK SIXTH FORM COLLEGE

GORLESTON-ON-SEA



We're taking the Festival on the road, with our Science Satellites! This is a great chance for families in the Gorleston-on-Sea area to get hands-on with tech, and to hear about all things dinosaurs with expert and NSF patron, Prof Ben Garrod.

TALKS:

- Extinct with Prof Ben Garrod
- Criminal minds talk for ages 16+

WORKSHOPS:

- Esports tournament
- Meccano construction challenge with RAF Marham
- Coding and robotics with LEGO, with RAF Marham
- Build your own stomp rockets
- Kitchen science fun
- Photography and art workshops
- Reach for the stars with Norwich Puppet Theatre

Venue: East Norfolk Sixth Form College
Cost: £0–£4, see website
Age: See website for details

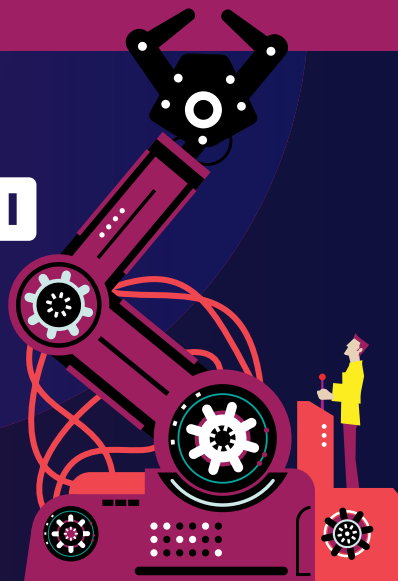
BOOK
NOW!



Supported by:



TECH, INNOVATION AND ENGINEERING DAY



**FAMILY
EVENT**

THE EXPLORIUM!

MON 13 FEB
10.30am–4pm, drop-in
Quiet Hour 9.30am–
10.30am, booking required

Delve into the wonders of innovation, from the tiniest of technologies to the biggest builds. Take a look at the world of tech and engineering, from coding games and virtual reality, through to an artificial intelligence snooker game, to how forces and materials shape a building.

Venue: The Forum, Explorium
Cost: Free
Age: All ages
Sponsored by:



breakwater IT



**WORK
SHOP**

Science on a roll MAKING EDUCATIONAL BOARD GAMES LESS BORING

MON 13 FEB
9.30am–12pm

Games can help us disappear into new realities, experience the world from entirely new perspectives and maybe learn something in the process. Come and see how board games can give you a chance to play with science, and discover something new about the world around us!

Venue: Millennium Library,
Business & IP Centre Room
Cost: Free, drop-in
Age: 4+



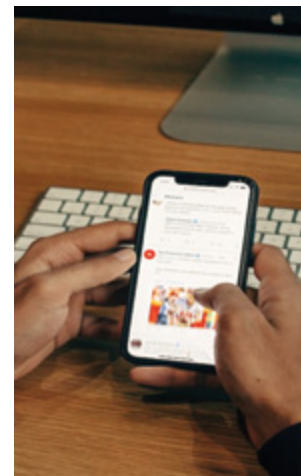
**WORK
SHOP**

Raspberry Pi workshop

MON 13 & WED 15 FEB
11am–12pm: ages 7–11
1pm–2pm: ages 11–16
3pm–4pm: 16+

Blast off into space! Help astronauts take important measurements in outer space. We'll have the chance to run our team code in orbit on the real International Space station! Rather have feet on the ground? Programme your own Minecraft, lights or squishy circuits.

Venue: Sir Isaac Newton
Sixth Form
Cost: £4
Age: 7–16,
see times above



The disinformation game

MON 13 FEB
11am–12pm

From deepfakes to fake news, the online world is rife with false information. But how does it spread, and what is being done about it? Niklas Henderson dives into the mechanisms of false information online, and how games can be used for people to protect themselves.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 12+



Technology in rehabilitation, sleep and caring

MON 13 FEB
11am–12pm

Join researcher David Young and Prof Chris Fox as they focus on the use of technology and smartphone apps within healthcare. They will consider some of the benefits as well as barriers to the use of technology in real-world settings spanning a range of ages and health conditions, with particular focus on rehabilitation, sleep and caring.

Venue: Norwich School,
Blake Studio
Cost: Free, booking required
Age: 12+



Credit: Matt Keal

The Curious Case of the Mystery Animal

WITH DR JESS FRENCH

MON 13 FEB
11am–12pm



A mysterious animal has been causing havoc in the library. But can you solve the puzzles and crack the clues to find out which creature is to blame? A hands-on workshop combining spycraft, problem-solving and some extraordinary facts about the natural world.

Venue: Millennium Library,
Business & IP Centre Room
Cost: £6
Age: 7–10

100 years of 9.5mm film

MON 13 FEB
11am–12.30pm

The East Anglian Film Archive presents an hour-long film compilation drawn from the film archive's collections, with a short introduction about the history of the 9.5mm film gauge, which was first used over 100 years ago. Plus exhibition in Millennium Library.

Venue: Millennium Library,
Vernon Castle Room
Cost: Free, booking required
Age: 4+





Adventures in sound

MON 13 FEB
1pm–2pm

Come and join us for adventures in sound. Discover unexpected experiences about the world of sound. What are acoustics? How can we see sound? What does the inside of an ear really look like? Find out in a fun interactive journey with Adrian James Acoustics.

Venue: The Forum, Auditorium
Cost: £4
Age: 10+

Why do we get hacking wrong?

MON 13 FEB
1pm–2pm

Our academic panel will lead you through the hidden world of computer hacking and coloured hats. They will challenge your assumptions about who hackers are, what they do, and how their work is critical to the security of us all.

Venue: Norwich School, Blake Studio
Cost: £7.50
Age: 15+



Top secret: the magic of science

MON 13 FEB
2.30pm–3.30pm

Experience action-packed interactive science experiments that will capture the imagination. Top Secret is a fast-moving colourful magical science show filled with mystery, suspense, and lots and lots of mess! Doors open 2pm.

Venue: The Halls
Cost: Child £10, adult £12, family ticket £35
Age: 3+
Book: thehallsnorwich.com

Mark Thomson's spectacular science show

MON 13 FEB
2.30pm–3.30pm

You think science is boring, think again; this is science like you have never seen it before. Designed for children and adults alike, this show explores the strange and magical properties of matter with exploding elephant's toothpaste, vortex-generating dustbins and even howling jelly babies!

Venue: Norwich Theatre Playhouse
Cost: £16 adults, £14 children + booking fee
Age: 5+
Book: norwichtheatre.org

Cyber Escape Room

MON 13 FEB
2pm–4pm

Have you ever wondered about just how safe your data is? Come along to our Cyber Escape Room to try and solve the mystery of who stole the data (and what they might have done with it!). You will have to find the clues, solve puzzles and work together to figure it all out and save the day in this thoroughly modern mystery!

Venue: Millennium Library, Heritage Room
Cost: Free, drop-in
Age: 4+



Making sense of screen time

WITH PROF PETE ETCHELLS

MON 13 FEB
3pm–4pm

Our screen-based lives, we have been told, are unwholesome, unnatural, and maybe even harmful. But what does science actually have to say about the effects of screen time? Join Professor of Psychology Pete Etchells to investigate. Presented by The Cosmic Shambles Network.

Venue: The Forum, Auditorium
Cost: £6
Age: 12+



Seeing and feeling with ultrasound

MON 13 FEB
3pm–4pm

Bats and dolphins use ultrasound to see and communicate over long distances. High energy ultrasound can cause objects to levitate! These amazing effects can be used by engineers to explore deep underground or inside the human body.

Venue: Norwich School, Blake Studio
Cost: £6
Age: 12+

The tuneful electron

MON 13 FEB
5pm–6.30pm

Find out about the pioneers of electronic music and be creative with the technology they used. See how computers can help everyone to become involved in music creation. A talk on the history of electronic music is followed by a concert featuring some of the important works in the genre.

Venue: Norwich School, Blake Studio
Cost: Free, booking required
Age: 7+



Life after cancer

+ SPECIAL PREVIEW OF
SHORT FILM 'ROSE'

MON 13 FEB
6.30pm–8pm

See p9

The Future of Ocean Exploration

MON 13 FEB
7pm–8pm

Exploration of the oceans remains the greatest frontier on our planet. Today, research, expedition ships and new technology are allowing us to understand our seafloor like never before. Join us for an exciting discussion with the scientists and explorers who are at the forefront of exploring our oceans.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 7+

Science Club: An introduction to organ donation

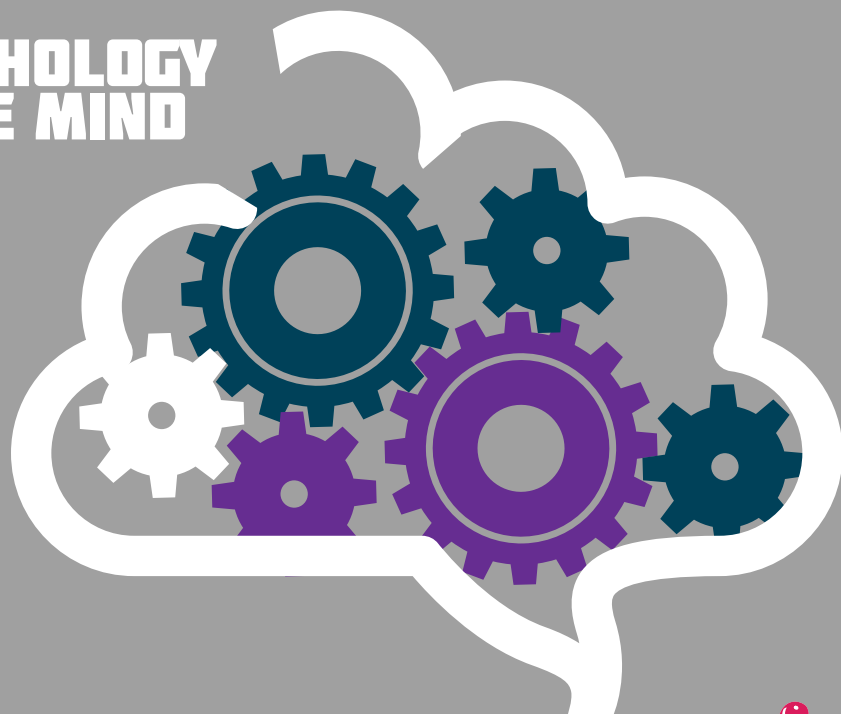
WITH curious directive

MON 13 FEB
7pm–8.30pm

In the UK, organ donation is now an opt-out decision. Our fragile bodies can offer a future life to others. But would you want to donate? Critical practical and ethical issues are explored in collaboration with the NHS. curious directive offers an insightful, emotionally intelligent introduction to organ donation, offering no answers, just questions – followed by a presentation of storyboard for a theatre production based on the theme, led by Artistic Director, Jack Lowe.

Venue: curious directive, 49 Elm Hill
Cost: £10
Age: 18+
Book: curiousdirective.com/science-club

PSYCHOLOGY & THE MIND DAY



THE EXPLORIUM!

TUE 14 FEB
10.30am–4pm, drop-in
Quiet Hour 9.30am–
10.30am, booking
required

Our brains are wonderful things – highly powerful and operating a complex body seamlessly through the nervous systems. Find out how we process language, how children learn and think, what happens to the brain when we sleep, and much more.

Venue: The Forum, Explorium
Cost: Free
Age: All ages

Science discovery day

TUE 14 FEB
10am–4pm

Join us for a free day of hands-on science activities covering everything from observing bugs, handling fossils to discovering genetic codes! Perfect half term fun for kids ages 4 to 14. Activities last approx 90 mins. Please book your preferred time.

Venue: Diss Corn Hall
Cost: Free, booking required
Age: All ages
Booking: thecornhall.co.uk / 01379 652241

CORN HALL



Exciting electricity!

TUE 14 FEB
10am–10.45am,
11.15am–12pm,
1.30pm– 2.15pm

Bring along your little ones, and join in the fun as we explore electricity by making simple circuits and launching flying saucers! We'll also make a fantastic human electricity circuit.

Venue: Sir Isaac Newton Sixth Form
Cost: £5
Age: 3–5



WORK SHOP



Trees in Winter

SUN 12 & TUE 14 FEB
10am–3.30pm

See p19



Skin deep: unpacking the packaging

TUE 14 FEB
10.30am–12.30pm,
1.30pm–3.30pm

Our recreation of an early 20th-century pharmacists' shop is full of counters, drawers and shelves packed with the most amazing array of mysterious potions, chemicals and pills, all in their original packets and containers. Come and discover what lies inside the packaging with our friendly pharmacist!

Venue: Museum of Norwich at the Bridewell
Cost: Activities included in museum admission
Age: 3+
Book: museums.norfolk.gov.uk/ museum-of-norwich



Holiday Studio: Life at the Sainsbury Centre

TUE 14 FEB
10.30am–3.30pm

WORK SHOP

Who lives at the Sainsbury Centre? And who should not be living there? Join picture-book maker Rose Feather for a print-making studio workshop where you'll find out about the bugs and beasts that are kept at bay at the gallery. You'll create your own illustrated story book for the bugs to live in, bound tight with thread.

Venue: Sainsbury Centre
Cost: Pay what you can – suggested donation £15 per child. Covers materials and a snack
Age: 7–12
Book: sainsburycentre.ac.uk



Can you 'recover' from a dementia diagnosis?

TUE 14 FEB
11am–12pm

Dementia is a progressive illness, but are there better ways of living despite having a life-changing condition? What does 'recovery' here mean? Join progressive researchers Professor Chris Fox, Juni West and Dr Jane Cross alongside those with lived experience Peter Berry, Deb Bunt and Geoff Fenwick for a lively discussion on social interaction, supporting family and friends, and engaging in joyful activities. Plus book signing.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 15+

Bones and body bits

TUE 14 FEB
12.30pm–2pm

Look at our natural history collection and learn how to tell the difference between a deer and fox skull, which rodents have eaten which nuts and learn how to identify what an owl has eaten.

Venue: NWT Hickling Broad
Cost: £3 NWT members, £3.50 non-members + booking fee
Age: All ages
Book: norfolkwildlifetrust.org.uk



Women in science: careers

WITH BRENNAS HASSETT,
PROF SHENG QI & DR
THARIN BLUMENSCHIN

TUE 14 FEB
1pm–2pm

If you can see it, you can be it. Join three super-successful female scientists to hear about their varied journeys into a scientific career. Chemist Dr Tharin Blumenschein has dreamed of being a scientist since she was 8, Sheng Qi is an engineer in industrial pharmacy and Brenna Hassett is dedicated to highlighting the contributions of women in the 'digging' sciences: archaeology, geology, and palaeontology. Plus book signing.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 10+



WORK
SHOP

The Devil You Know

ENCOUNTERS IN FORENSIC
PSYCHIATRY WITH DR GWEN
ADSHEAD

TUE 14 FEB
1pm–2pm

[See p6](#)



Is childhood our species' secret weapon?

THE EVOLUTIONARY
HISTORY OF CHILDHOOD
WITH BRENNAS HASSETT

TUE 14 FEB
3pm–4pm

Our species is remarkably strange in the amount of time we spend growing up. Anthropologist Brenna Hassett will examine some of the surprising evolutionary choices we have made along the way – from monogamy to the evolution of schools – to enable our weird babies to grow up into the most successful primates on the planet. Plus book signing.

Venue: The Forum, Auditorium
Cost: £7
Age: 15+



Bird Therapy

WITH JOE HARKNESS

TUE 14 FEB
3pm–4pm

Being in nature has been proven to improve people's mental health and wellbeing, and is now even promoted by the NHS as 'green prescribing'. In this talk, author and birdwatcher Joe Harkness speaks about the therapeutic benefits of birdwatching, connecting with nature, and his personal story. Plus book signing.

Venue: Norwich School, Blake Studio
Cost: £5
Age: 16+

Family raptor roost

TUE 14 FEB
3.30pm–5pm

Learn the difference between the raptors; their different behaviours, how to identify them and their life cycle. Afterwards we'll walk down to the raptor roost and find out why NWT Hickling Broad is so important.

Venue: NWT Hickling Broad
Cost: £3 NWT members, £3.50 non-members + booking fee (Reserve free entry for non-members)
Age: All ages
Book: norfolkwildlifetrust.org.uk

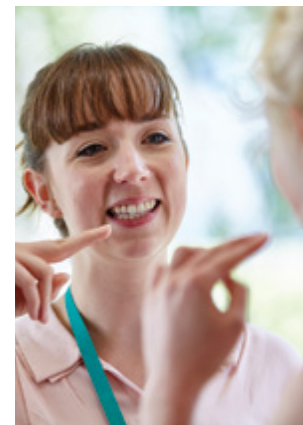


Using stem cells to repair the heart

TUE 14 FEB
5pm–6pm

Did you know that stem cells can be manipulated by gene editing technology to correct disease mutations and repurposed as new heart tissue? In this talk, James Smith will talk about the future of regenerative medicine treatment.

Venue: Norwich School, Blake Studio
Cost: Free, booking required
Age: 15+



Mind the gap

SPEECH, LANGUAGE AND
COMMUNICATION NEEDS

TUE 14 FEB
5pm–6pm

Connect with a Speech and Language Therapist (SLT) to consider the importance of communication. Explore the role of an SLT and find out more about the work we do with a wide range of children and adults to improve lives. This session will be interactive, and you will discover ways to support communication to help you to connect with those around you.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 12+



Criminal Minds

ARE YOU THE NEXT
SERIAL KILLER? WITH
STEVE GASKIN

TUE 14 FEB
7pm–8pm

The popular media will suggest serial killers are intelligent, abused in some way or there is a trigger which unleashes their behaviour. Is this true? Mercifully serial killing is very rare in the UK. Let us delve into some real-life cases and see if you could kill.

Venue: The Forum, Auditorium
Cost: £9
Age: 16+



Heartbreak: necessary process or byproduct of love?

WITH ROSIE WILBY, VIREN
SWAMI & BARBARA
SAHAKIAN

TUE 14 FEB
7pm–8pm

[See p8](#)

Boogie on the brain: the psychology of dancing

WITH DR PETER LOVATT

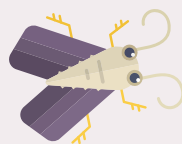
TUE 14 FEB
8pm–10.30pm

[See p8](#)

SCIENCE
SATELLITES



GRESHAM'S SCHOOL IN HOLT



A day of fun, hands-on workshops and talks at Gresham's School in Holt, including special events from CBeebies star, vet and author Jess French!

EVENTS WITH DR JESS FRENCH

- Teddy bear clinic
- Slow down monkey
- Minibeast adventure

WORKSHOPS

- Coding and robotics with LEGO, with RAF Marham
- Explore crazy chemical reactions
- Reach for the stars with Norwich Puppet Theatre
- Make your own stomp rockets
- Wonders of the human body
- Make bath bombs
- and much more!

VENUE: Gresham's School, Dyson Building
COST: £0-£4, see website
AGE: 3-14

BOOK
NOW!



Supported by:



FAMILY
EVENT

Credit: Simon Buck

NORWICH RESEARCH PARK DAY

FAMILY
EVENT



THE EXPLORIUM!

WED 15 FEB
10.30am-4pm, drop-in
Quiet Hour 9.30am-
10.30am, booking required

A day for families to explore the amazing science and research that happens right here in our fine city. Plus you can build your own microscope out of LEGO, design your own diagnostic test, and join Rebo the NHS Research Robot on an adventure!

Venue: The Forum, Explorium
Cost: Free
Age: All ages



Raspberry Pi workshop

**MON 13 &
WED 15 FEB**
11am-12pm: ages 7-11
1pm-2pm: ages 11-16
3pm-4pm: 16+

See p24

FAMILY
EVENT

WORK
SHOP



Skin deep: natural beauty

WED 15 FEB
10.30am-12.30pm,
1.30pm-3.30pm

Did you know we have a secret garden at Strangers' Hall? Join us to explore how people throughout history have used their knowledge and understanding of plants to create beauty products

Venue: Strangers' Hall
Cost: Activities included in museum admission

Age: 3+

Book: museums.norfolk.gov.uk/strangers-hall



Microbe- managing cancer USING GUT BACTERIA TO FIGHT TUMOURS

WED 15 FEB
11am-12pm

We have more bacteria in our gut than cells in our body. Recent technological advances are revealing the functional roles of these bacteria in health and disease, including surprising links to cancer outcomes. This talk will explore the future of bacterial therapies for cancer and highlight some exciting new discoveries made in Norwich.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 12+





Balloons, buckets and breathlessness

WED 15 FEB
1pm–2pm

People with advanced cancer often feel breathless. In this interactive talk, we'll explore why they feel short of breath, how we can help their symptoms and the research we are doing at Norwich Research Park to improve their care. Bring your lungs and be ready to blow!

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 7+

Norfolk and Norwich
University Hospitals
NHS Foundation Trust

How can science and literature enrich one another?

WED 15 FEB
2pm–3pm

What happens in our body, especially in our brain, when we read? And what can literature – with its characters and situations and beautiful forms – add to a scientific view of the world? This talk from Dr Charlotte Lee of the University of Cambridge will present research that is happening at the intersection between cognitive science and literary criticism.

Venue: Millennium Library, Business & IP Centre Room
Cost: Free, booking required
Age: 12+

E-cigarettes in the emergency department

A WEAPON IN THE BATTLE AGAINST SMOKING?

WED 15 FEB
3pm–4pm

This talk will cover the facts around the harms of smoking, the evidence behind using e-cigarettes and why A&E might be the ideal place to promote them, followed by a 'myth busting' Q&A session.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 15+

Norfolk and Norwich
University Hospitals
NHS Foundation Trust

Nature, nurture and nutrition

CAN YOU CHANGE YOUR GENES? WITH DR SOPHIE PROSOLEK

WED 15 FEB
4pm–5pm

A cutting-edge look at the nature vs nurture debate, examining the role that maternal nutrition, and the food we eat throughout our own lives, has to shape our dynamic genomes and make us who we are today.

Venue: Millennium Library, Business & IP Centre Room
Cost: Free, booking required
Age: 15+

Big genomics data and the fight against cancer

WED 15 FEB
5pm–6pm

The last decade has seen a breakthrough in our ability to rapidly read the 3 billion letters of DNA in every human cell. In this talk we will investigate how this technology is being used to understand cancer and improve treatment.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 12+

UEA
University of East Anglia

Pint of Science special

WED 15 FEB
7.30pm–9.30pm

See p9



Stargazing walk

WITH MARK THOMPSON

WED 15 FEB
6pm–8pm

Beginning in Burnham Deepdale, we will walk a short 1¼ miles out along a section of the Norfolk Coast Path to meet astronomer, Mark Thompson, for some stargazing and a fascinating talk.

Venue: Burnham Deepdale Backpackers
Cost: £10
Age: 10+

Prostate cancer: is it an infectious disease?

WED 15 FEB
7pm–8pm

Microbes (viruses, bacteria and fungi) cause around 15% of cancers globally. For example, papilloma virus causes cervical cancer and the bacteria *Helicobacter pylori* causes stomach cancer. Find out how these observations are extended by finding multiple independent links between the presence of bacteria and the development of aggressive prostate cancer, again suggesting a causal link.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 12+

UEA
University of East Anglia



It's a wild life: tales from television

WITH DR GEORGE MCGAVIN

WED 15 FEB
7.30pm–9.15pm
(with interval)

In this engaging and intriguing show, Dr George McGavin shares his personal journey to discover the world of wildlife – big and especially small. Join TV presenter George on a riveting adventure, as he shares stories of the wild and wonderful places he has visited and the amazing discoveries he has made along the way. His work has taken him from the tropical forests of Papua New Guinea and Borneo to the caves of Thailand, and from the jungles of Belize to the savannahs of Tanzania.

Venue: Norwich Theatre Playhouse
Cost: £17–£21 + booking fee
Age: 10+ with guidance
Book: norwichtheatre.org



Lab Escape Room

WED 15 FEB
11am–12pm, 2pm–3pm

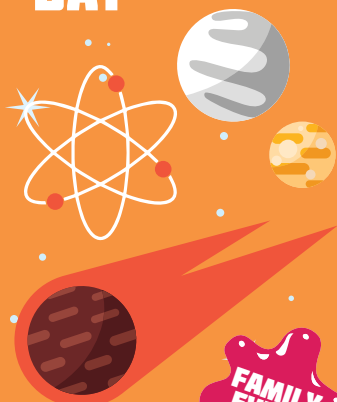
WORK
SHOP

A crazed lab assistant has locked the door to your lab and is gradually filling the room with carbon dioxide gas. You have approximately 45 minutes until gas levels will render you unconscious. He has set three tasks which will provide the codes you need to solve a puzzle which will ultimately lead you to safety. Do you and your team have what it takes to escape?

Venue: Millennium Library, Vernon Castle Room
Cost: £4
Age: 12+

UEA
University of East Anglia

CHEMISTRY, PHYSICS AND ASTRONOMY DAY



THE EXPLORIUM!

THU 16 FEB
10.30am–4pm, drop-in
Quiet Hour 9.30am–
10.30am, booking required

Today we journey from small molecules, through to the forces that impact materials, to the universe beyond, in a celebration of chemistry, physics and astronomy. Find out how to stargaze, see how chemicals react, and get hands-on with some exciting physics experiments.

Venue: The Forum, Explorium
Cost: Free
Age: All ages
Sponsored by:



Techathon 2023

THU 16 & FRI
17 FEB 9am–4pm

WORK SHOP

The two-day Techathon lets young people explore the possibilities of technology in an informal and creative environment. Each team takes on a challenge, trying out ideas, finding out what works and what doesn't. A great opportunity to meet expert mentors, have fun, learn new skills, make friends and win prizes.

Venue: Norwich School
Cost: £10 for both days
Age: 8–18
Book: stepintotechathon.org



Rocket to the Moon!

THU 16 FEB
10am–11am, 11.30am–
12.30pm, 1pm–2pm,
2.30pm–3.30pm

Become a rocket scientist as you design, build and launch your own air-rocket to try and reach the moon! Learn about aerodynamics, how rockets work and the real-life challenges involved in getting humans to the moon.

Venue: Sir Isaac Newton Sixth Form
Cost: £5
Age: 6+



BOOK AT NORWICHSCIENCEFESTIVAL.CO.UK

Crafty creations

THU 16 FEB
10.30am–12pm

WORK SHOP

Join us to create woodland works of art; look out for wildlife as we collect natural materials, then use these materials together with some clay to create masterpieces.

Venue: NWT Hickling Broad
Cost: £3 NWT members, £3.50 non-members + booking fee (Reserve fee entry for non-members)
Age: All ages
Book: norfolkwildlifetrust.org.uk



Celebrating Science

EXPLORING THE WONDERS OF THE UNIVERSE

THU 16, FRI 17 & SAT 18 FEB
10.30am–3.30pm

From the breath-taking beauty of space to the amazing diversity of life on earth, our universe is incredible! Join the team from Faraday Institute for Science and Religion, Cambridge, to get hands-on with a range of science experiments and activities celebrating science and learning about the wonders of our world.

Venue: St Peter Mancroft
Cost: Free, drop-in
Age: 5+



Credit: Shaun Reynolds

Star life

TEN BILLION YEARS FROM CRADLE TO GRAVE

THU 16 FEB
11am–12pm

A journey from the birth of a star – and its planets – to its end, via interstellar recycling, given by local semi-pro astronomer Michael Poxon. Illustrated throughout with beautiful images taken by local astro-photographer Shaun Reynolds.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 10+

Big and small

WITH ALEX HOLMES & AFFELIA WIBISONO

THU 16 FEB
11am–12pm

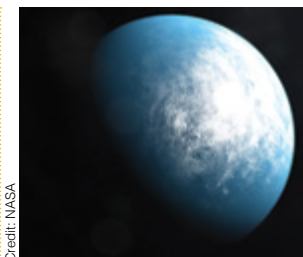
See p7

Physics of Life

WITH SARAH COSGRIFF

THU 16 FEB
1pm–2pm

See p7



Credit: NASA

Exoplanets: brave new worlds

THU 16 FEB
1pm–2pm

In our Solar System, Earth seems uniquely suited to host life. But what about planets around other stars? Could some of these be Earth-like – or even inhabited? Discover, with Dr Jo Barstow, how we can answer these questions by using state of the art telescopes to study the 'exoplanets' – planets orbiting other stars.

Venue: Norwich School, Blake Studio
Cost: £5
Age: 10+

Feed the birds

THU 16 FEB
1.30pm–3pm

A fun workshop to make a bird feeder to take home. It's a fantastic way to encourage birds to your garden and have a closer look at the species which share your local area.

Venue: NWT Hickling Broad
Cost: £3 NWT members, £3.50 non-members + booking fee (Reserve fee entry for non-members)
Age: All ages
Book: norfolkwildlifetrust.org.uk



The sun's family

A TOUR OF OUR SOLAR SYSTEM

THU 16 FEB
2pm–3pm

A whistlestop tour of the planets – looking at their form and appearance, their moons and peculiarities. Plus we'll discuss some other strange objects that wander around the solar system, as well as some odd Earth-based phenomena.

Venue: Millennium Library, Vernon Castle Room
Cost: Free, booking required
Age: 10+

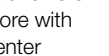
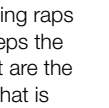
Rap science: space workshop

WITH JON CHASE

THU 16 FEB
12pm–1pm

Learn all about space and our relationship with it, using raps and demos. What keeps the planets in orbit? What are the seasons all about? What is the Sun? How much do you really weigh? Find out answers to these and much more with rapping science presenter Jon Chase.

Venue: Millennium Library, Business & IP Centre Room
Cost: £6
Age: 6–12



BOOK AT NORWICHSCIENCEFESTIVAL.CO.UK

Big world, big questions

IS THERE SPACE FOR FAITH IN A SCIENTIFIC WORLD?

THU 16, FRI 17
& SAT 18 FEB
1.30pm–3pm

WORK
SHOP

A chance to ask the really big questions with Christian scientists from the Faraday Institute for Science and Religion. 'Does science disprove God?' 'Can the Bible be true if it doesn't mention dinosaurs?' 'Could robots or aliens be religious?' 'What really makes me 'me'?'

Venue: St Peter Mancroft

Cost: £2

Age: 10+

Book: stpetermancroft.org.uk

Dr Ken's spectacular science circus show

THU 16 FEB
2pm–3pm

Roll up, roll up. It's time for some entertaining circus science experiments. Juggling scientist Dr Ken explores the principles behind skillful circus tricks and dangerous stunts. Plus circus workshop at 11am.

Venue: Diss Corn Hall

Cost: £7 / Show + Workshop £12

Age: 7+

Book: thecornhall.co.uk/
01379 652241

CORN
HALL



The strange case of Dr Jekyll and Mr Hyde

BY ROBERT LOUIS STEVENSON. ADAPTED AND PERFORMED BY MARK STRATFORD

THU 16 FEB
2.30pm–3.30pm,
7.30pm–8.30pm

A compelling solo show based on Robert Louis Stevenson's classic Victorian mystery tale about the fate of scientist Dr Jekyll, and the inexorable conflict between good and evil. In this faithful adaptation Stevenson's gripping narrative is brought vividly to life through a combination of powerful storytelling and masterful character creation.

Venue: The Halls

Cost: £10 child, £12 adult, £35 family ticket

Age: 12+

Book: thehallsnorwich.com

After that

THU 16 FEB
2.30pm–3.30pm

FAMILY
EVENT

Set 40 years from now, Grace lives in Ordinary Town, a place where everybody has rocks in their bellies to keep their feet on the ground; where no-one takes risks or chances...or even dreams. But when Grace finds a letter from her mother, she embarks on an epic journey of healing and discovery, in this adventure and the wonders of the natural world, that will be equally loved by children and their parents.

Venue: Norwich Theatre

Stage Two

Cost: £10 child, £12 adult + booking fee

Age: 8+

Book: norwichtheatre.org

A science rapper's guide to the Solar System

WITH JON CHASE

THU 16 FEB
3pm–4pm

FAMILY
EVENT

A tour of the solar system with a difference! Join science presenter Jon Chase as he explains just how extreme our Solar system can be, through the use of science-based raps that you can join in with! He'll be answering questions like: How big is the solar system? How puny is Pluto? What's the smelliest planet?

Venue: Norwich School,

Blake Studio

Cost: £6

Age: 7+

Musical physics: behind the music

WITH PROFESSOR
STEPHEN ASHWORTH

THU 16 FEB
3pm–4pm

Take part in an exploration of the physics behind the generation of sound and the construction of musical instruments. The talk will involve a number of demonstrations using a variety of home-made and commercial instruments. Hosted by Professor Stephen Ashworth.

Venue: The Forum, Auditorium

Cost: Free, booking required

Age: 8+

Building a fairer games industry

GAMES DEVELOPMENT
CAREERS FOR
MARGINALISED GENDERS

THU 16 FEB
5pm–6pm

Robin from Fairer Games will speak on the opportunities and challenges in the games industry, sharing her personal journey and her great love of working in games development. An ideal talk for any young people who are interested in working in the video games sector.

Venue: The Forum, Auditorium

Cost: Free, booking required

Age: 10+

Book: bipc Norfolk.eventbrite.com

Business &
IP Centre
Norfolk



Dead list Z list

WITH ISZI LAWRENCE

THU 16 FEB
5pm–6pm

See p7

Superspy Science

SCIENCE, DEATH AND
TECH IN THE WORLD OF
JAMES BOND WITH DR
KATHRYN HARKUP

THU 16 FEB
7pm–8pm

See p9

Science shambles podcast LIVE

WITH DR HELEN CZERSKI
AND PROF MARK
MIDDOWNIK

THU 16 FEB
7pm–8pm

See p8



DID YOU KNOW?

THE ANDROMEDA
GALAXY IS ON A
COLLISION COURSE
WITH OUR OWN
GALAXY, THE
MILKY WAY! BUT
IT WON'T HAPPEN
FOR ANOTHER 4.5
BILLION YEARS!



Science Club: an introduction to sleep science

WITH curious directive

THU 16 FEB
7pm–8.30pm

During the average lifetime, we spend 229,961 hours asleep. Groundbreaking theatre company curious directive introduces an entertaining and extraordinary insight into the science of sleep, in collaboration with Dr Alpar Lazar, Sleep and Brain Research Unit, UEA. What happens when we dream? And why is getting eight hours sleep so important? Followed by a storyboard presentation for a theatre production based on the themes, led by Artistic Director, Jack Lowe.

Venue: curious directive,

49 Elm Hill

Cost: £10

Age: 18+

Book: curiousdirective.com/science-club



How to leave a planet

WITH PROF SUZIE IMBER
AND DALLAS CAMPBELL

THU 16 FEB
8.30pm–9.30pm

See p9

CLIMATE CHANGE AND SUSTAINABILITY DAY



THE EXPLORIUM!

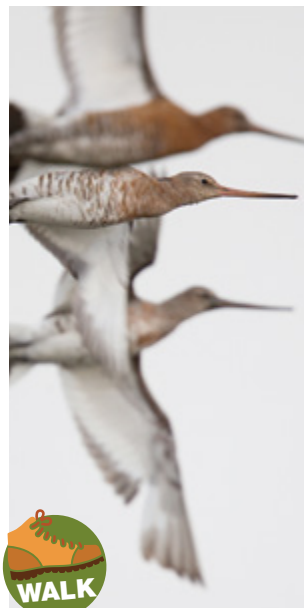
FAMILY EVENT

FRI 17 FEB
10.30am–4pm, drop-in
Quiet Hour 9.30am–10.30am, booking required

The future of our planet really is in our hands, and we must act now. The climate and nature crisis unfolding before us needs urgent action. Today we look at the work of local scientists and organisations who combat climate change, promote sustainability and help the environment. And, importantly, what we all can do to help.

Venue: The Forum, Explorium
Cost: Free
Age: All ages

Sponsored by:



Credit: Wildlife Tours and Education

Winter migrants walk

FRI 17 FEB
9am–1pm

A 4km walk around Cley to discover the winter visiting birds that migrate to our shores each winter. All aspects of migration and species found will be discussed and explored.

Venue: NWT Cley Marshes
Cost: £20
Age: 15+
Book: carl@wildlifetoursandeducation.co.uk



Credit: Annie Spratt

The secret life of ponds workshop

WORK SHOP

FRI 17 FEB
10am–1pm

Working with performance poet Chris Redmond and freshwater scientist Helen Greaves, this introductory workshop will introduce the science behind the declining UK farmland pond and their extraordinary biodiversity, and offer creative routes to engaging with these ideas through poetry. You will leave the session with your very own pond poem, and fresh perspectives about the importance of ponds in the climate change and nature recovery context.

Venue: Millennium Library, Vernon Castle Room
Cost: £5
Age: 12+



NATURAL ENGLAND
LOTTERY FUNDED
Supported using public funding by
ARTS COUNCIL ENGLAND



Deforestation on our plates

FRI 17 FEB
11am–12pm

Find out how the food we eat is linked to deforestation, with Greenpeace Speaker Mark Crutchley. We know fossil fuels are incompatible with a habitable future for humanity, but what about meat consumption, which is responsible for 19% of emissions? Should we treat meat like fossil fuels? And what would the food system look like if we were serious about climate change?

Venue: Norwich School, Blake Studio
Cost: Free, booking required
Age: 12+

GREENPEACE



Corals and seagrasses

FAMILY EVENT

WHY WE NEED THEM MORE THAN THEY NEED US

FRI 17 FEB
11am–12pm

Human activities continue to put pressure on our valuable coastal ecosystems, particularly coral reefs and seagrass beds. This talk will look at how our coastal ecosystems change and adapt to those many pressures. But it's not just about what is lost, but what we can gain from a healthy functioning eco-system.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 7+





Sustainability within modern retail

WITH CHANTRY PLACE AND H&M

FRI 17 FEB
12pm–1pm

The climate crisis is a hot topic that needs urgent action by all. How can fast fashion and modern retail tackle sustainability throughout their businesses? We hear from Paul McCarthy, General Manager of Chantry Place, and Molly Ajeto, visual merchandiser at H&M, about their journeys towards a more sustainable future, from reusing coffee grounds to installing solar panels at Chantry Place.

Venue: Sir Isaac Newton Sixth Form
Cost: Free, booking required
Age: 10+

Sponsored by:



Edible insects PROTEIN OF THE FUTURE

FRI 17 FEB
1pm–2pm

How can the humble cricket help combat climate change? Come along and hear Henry explain the rise of Edibl® – The UK Insect Company, and what it's like to set up your own sustainable food company.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 10+



Hot times in deep time

THE GEOLOGICAL RECORD OF EARTH CLIMATE WITH
PROF CHRIS JACKSON

FRI 17 FEB
1pm–2pm

See p7



Become a wildlife and environment reporter

WITH KATE ON CONSERVATION

FRI 17 FEB
1pm–3pm

Join journalist, blogger and book editor 'Kate on Conservation' for this writing workshop suitable for 8–12-year-olds. Create your own piece of environmental journalism during the session, which will be turned into our own Norwich Science Festival mini magazine.

Venue: Millennium Library, Business & IP Centre Room
Cost: £6
Age: 8–12



Dare to speak up about climate change

FRI 17 FEB
2pm–4pm

Speak up about the need to take climate change action! Come and learn the tools and techniques on how to write a powerful speech on climate change action and gain the skills and confidence to deliver this speech to an audience that needs to hear your message.

Venue: Millennium Library, Heritage Room
Cost: £4
Age: 12+

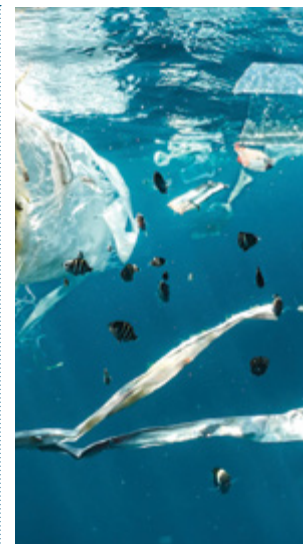


The psychology of climate change

WITH CAROLINE HICKMAN, IRENE LORENZONI & STEPHAN LEWANDOWSKY

FRI 17 FEB
3pm–4pm

See p7

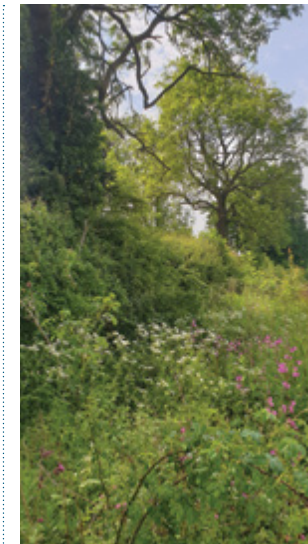


How to end plastic pollution

FRI 17 FEB
3pm–4pm

Pollution caused by waste plastics is already having major implications for water quality, biodiversity and human health. Our panel – made up of scientists, policymakers, activists, and Norfolk businesses – will cover different ways of understanding the causes of the problem and explore system-wide top-down solutions and things that individuals can do.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 10+



Humble hedgerows

THE HIDDEN WORLD OF HEDGEROWS AND THEIR WILDLIFE

FRI 17 FEB
4pm–5pm

From nesting birds to hibernating hedgehogs, hedges provide abundant resources and connectivity corridors for wildlife. They also represent an ancient landscape that once covered Britain. Join us to learn more about the dynamic behind-the-scenes world of humble hedgerows and how to manage them to provide a fantastic wildlife habitat.

Venue: Millennium Library, Vernon Castle Room
Cost: Free, booking required
Age: 15+



Control: the dark history and troubling present of eugenics

WITH DR ADAM RUTHERFORD

FRI 17 FEB
5pm–6pm

[See p5](#)



DID YOU KNOW?

SINCE 1990, THERE HAS BEEN A 41% INCREASE IN THE WARMING EFFECT ON THE CLIMATE.



The secret life of ponds – performance

FRI 17 FEB
7pm–8pm

Join us for a relaxed evening performance transporting you into the Secret Life of Ponds, and an artistic interpretation of the research that surrounds pond restoration for nature recovery in a climate change context. Hear music and poetry, as well as scientific research, that will provide an insight into this underwater world.

Venue: The Forum, Auditorium

Cost: £5

Age: 12+



Lessons in Chemistry

WITH BONNIE GARMUS

FRI 17 FEB
7pm–8pm

[See p4](#)

Nine lessons for Norwich Science Festival

WITH DR HELEN CZERSKI AND FRIENDS

FRI 17 FEB
8.30pm–10.30pm

[See p5](#)

HEALTH AND WELLBEING DAY



THE EXPLORIUM!

FAMILY EVENT

SAT 18 FEB
10.30am–4pm, drop-in
Quiet Hour 9.30am–10.30am, booking required

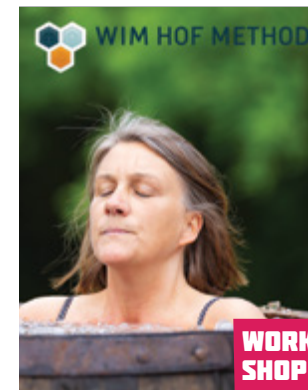
A special day dedicated to our health and wellbeing – find out what really happens as we age; see what cancerous cells look like, and hear about the fight against antimicrobial resistance.

Venue: The Forum, Explorium

Cost: Free

Age: All ages

Sponsored by:



Wim Hof Method fundamentals workshop

WITH OLIVER CLIFT

SAT 18 FEB
9.30am–3pm

Put yourself in the expert hands of a certified WHM Instructor to learn the three pillars of the Wim Hof Method: Breathing Technique, Cold Exposure & Commitment. Find out how you can utilise oxygen and cold exposure to optimise body and mind, and learn about the underlying physiology.

Challenge yourself in this exclusive workshop – be prepared to submerge yourself in cold water outside The Forum, in front of an impressed crowd!

See our participants brave the ice at 1pm outside The Forum!

Venue: The Forum, outside & Millennium Library

Cost: £100

Age: Adults only





The secret lives of vets

WITH CHAPELFIELD VETS

SAT 18 FEB
11am–12pm

Find out about the exciting lives of farm, equine and small animal vets and nurses in Norfolk and Suffolk! Being a vet or veterinary nurse is hugely rewarding and a great career – we have the pleasure of seeing your new puppies, kittens and horses born, and supporting you throughout their lives. We will tell you about the thrills and dramas that we deal with and the muddles that animals sometimes get themselves into!

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 7+



The impact of a healthy mind and body on everyday life

SAT 18 FEB
11am–12pm

Join a UEA Occupational Therapist in an interactive talk considering what 'healthy' means in the modern day. Learn about Occupational Therapy and how the profession defines the mind and body. This talk will help children and young adults begin to understand what illness and disability means to them, their families and their community.

Venue: Norwich School, Blake Studio
Cost: Free, booking required
Age: All ages



Sensational science

SAT 18 FEB
11am–12pm,
1pm–2pm,
2.30pm–3.30pm

Exploring the science of optical illusions and our amazing brains, this workshop is crammed full of science fun, experiments and hands-on activities. Make your own illusions to take home and try on friends and family.

Venue: Millennium Library, Heritage Room
Cost: £5
Age: 5+



Rude science

WITH GASTRONAUT
STEFAN GATES

SAT 18 FEB
11am–12pm, 2.30pm–3.30pm

See p6

Credit: Steve Ullathorne



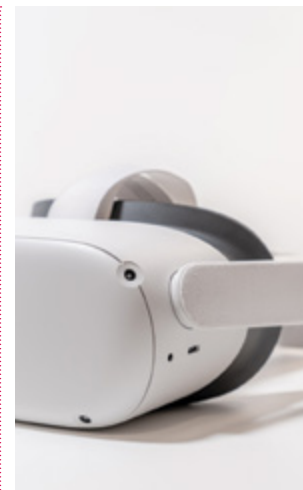
Learning to sleep

WITH MARK THOMPSON

SAT 18 FEB
12pm–1pm

Mark Thompson, NSF patron and marathon lecturer knows what it is like to become severely sleep deprived. But he definitely does not recommend doing this at home. Mark is now fascinated by sleep and how it impacts all our lives especially as we age. In this fascinating guided tour through the mysteries of sleep, Mark explores how sleep changes as we age; why babies nap and teenagers sleep in until middle of the day; how to use sleep to improve your school results and much more.

Venue: Sir Isaac Newton Sixth Form
Cost: £6
Age: 12+



An introduction to medical VR-simulation

SAT 18 FEB
12pm–1pm,
3.30pm–4.30pm

Participants will be able to experience what it is like to be a doctor, examine patients, carry out investigations and make a diagnosis in virtual reality. Each person will be assigned their own patient and given 20 minutes to see if they can save a life!

Venue: Millennium Library
Cost: £4
Age: 16+



The Science of Living

5 REASONS TO RETHINK YOUR DAILY ROUTINE WITH DR STUART FARRIMOND

SAT 18 FEB
1pm–2pm

Is breakfast really the most important meal of the day? When should you drink coffee? Why is finding the motivation to exercise so hard? Join award-winning author and science communicator Dr Stuart Farrimond to explore the science behind your habits, to make your day healthier, happier, and more productive. Plus book signing.

Venue: The Forum, Auditorium
Cost: £6
Age: 12+



Hack your brain

SAT 18 FEB
1pm–2pm



WORK
SHOP

A whirlwind introduction to the brain and nervous system! Packed with memorable demos, you'll create a giant neuron on stage to explore how nerve cells communicate. Watch as we hijack those signals to control someone's movements! We investigate our brains and how to make the most of them.

Venue: Norwich School, Blake Studio
Cost: £6
Age: 10+



Myth-busting the menopause

KNOWLEDGE,
UNDERSTANDING AND
EMPOWERMENT

SAT 18 FEB
2pm–3pm

Are you struggling to know what to believe about the menopause? With a panel of five leading experts on menopause from across the county, Consultant Gynaecologists Mr Tim Duncan and Mr Paul Simpson along with GPs Dr Emily Cary, Dr Hannah Healy and Dr Susanne Ahlund, expect a frank, myth-busting discussion! Plus live visuals with Rebecca Osborne and Q&A. Also livestreamed.

Venue: Norwich Arts Centre & online
Cost: £8 – in-person or online; + booking fee
Age: 12+
Book: norwichartscentre.co.uk



Pets and People

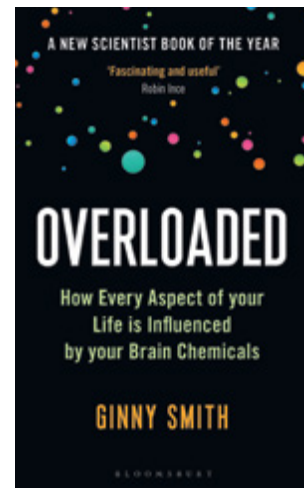
WHY PETS HELP US AS MUCH AS WE HELP THEM WITH DR JESS FRENCH

SAT 18 FEB
3pm–4pm



How do you feel when you stroke a cat? Is walking your dog your favourite part of your day? Animals improve our lives in many amazing ways. Join Dr Jess French to learn more about extraordinary the human-animal bond and why animals are so vital to human lives.

Venue: The Forum, Auditorium
Cost: £6
Age: 7–11



Overloaded

SAT 18 FEB
3pm–4pm

From adrenaline to dopamine, our lives are shaped by the chemicals that control us. Author Ginny Smith looks at the roles these chemicals play in all aspects of our experiences, from how we make decisions, who we love, what we remember, to basic survival drives such as hunger, fear and sleep.

Venue: Norwich School, Blake Studio
Cost: £6
Age: 6+



From bugs to drugs

HOW BACTERIA CAN GIVE US NEW CANCER TREATMENTS

SAT 18 FEB
4pm–5pm

The life of a single-celled organism is tough. What can kill a bacterium can also make us very unwell. Discover how these incredibly nasty molecules can also be turned into drugs to kill a cancer, without poisoning the patient.

Venue: Millennium Library, Vernon Castle Room
Cost: Free, booking required
Age: 10+



The butterfly effect

WITH SIMON UNDERDOWN

SAT 18 FEB
5pm–6pm

Our ancestors interbred with the Neanderthals and these Pleistocene encounters have left a lasting legacy in our health and response to disease. From Covid to clotting, biological anthropologist Simon Underdown explores how we're affected by Neanderthal genes to this day.

Venue: Norwich School, Blake Studio
Cost: £7
Age: 12+

Humans and their 'bodyminds'

WHAT IS SCIENCE NOT TELLING US?

SAT 18 FEB
5pm–6pm

How do humans experience their own embodiment? And how can the arts and humanities interrogate, reframe and augment scientific understandings of the body and the mind? In this panel, three UEA academics offer perspectives on the emerging field of Medical and Health Humanities, highlighting what it teaches us about the complex relationships between our bodies and minds.

Venue: The Forum, Auditorium
Cost: Free, booking required
Age: 12+





LEARNING PROGRAMME

The Norwich Science Festival Learning Programme returns for 2023, presented by The Forum – dedicated events for schools, colleges, youth groups and home-educated learners, designed to inspire future scientists.

Join in the fun **16 January–3 February**, with everything from kitchen science and tracking wildlife, to hacking your brain, rocket launches and crime scene investigation!

See norwichsciencefestival.co.uk/learning



YOUNG COMMS TEAM

YNAC is a welcoming creative community for young people aged 16–25 living in or with links to Norfolk, with a passion for the arts.

Through FREE regular workshops and sessions you will have the opportunity to collaborate and develop the skills and knowledge to enable you to produce and promote creative events, activities and exhibitions, such as our annual Young Norfolk Arts Festival.

Plus, there's the chance to see Norwich Science Festival shows for free, review them, and create a film!

See youngnorfolkarts.org.uk/yna-collective

YOUTH STEMM AWARD

The skills award for young people aged 13–19, designed to inspire and support the next generation into Science, Technology, Engineering, Maths and Medicine. Take part in STEMM-based activities outside normal lessons, log the hours and complete the strands to build a personalised e-portfolio, great for applications and interviews. Register independently or through your school and complete enough hours to achieve a Bronze, Silver or Gold Medal and certificate. All festival events could count towards an Award.

Visit ysawards.co.uk



SCI COMMS EAST

Become the next presenter for Norwich Science Festival! Our Sci Comms East conference returns on **Saturday 22 April**, and is perfect for inspiring science communicators from all backgrounds. You'll learn the skills you'll need to give inspiring talks or run exciting workshops, hear engaging talks from experts, and have a chance to network with your peers and other science communicators.

See norwichsciencefestival.co.uk/scicommseast



MARK THOMPSON



Astronomer, broadcaster and author who has presented on The One Show and BBC Stargazing Live. He has written nine books, appears on Good Morning Britain and tours his popular Spectacular Science Show around the country.

CHECK OUT:

MARK THOMPSON'S SPECTACULAR SCIENCE SHOW
MON 13 FEB See p26

JON CHASE



Jon is a science communicator, author and rapper, and is passionate about making science accessible to all. He has presented for the BBC and Open University and is the UK's foremost proponent of Science Raps having performed at The Science Museum, The Royal Society and The Royal Institution.

CHECK OUT:

RAPPER'S GUIDE TO THE SOLAR SYSTEM
THU 16 FEB See p37

LIZZIE DALY

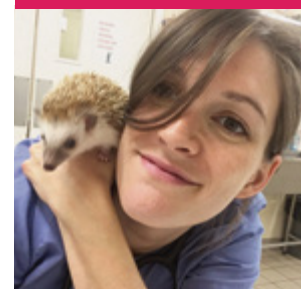


From filming with penguin and swimming with jellyfish to her conservation work with elephants, TV presenter and wildlife biologist Lizzie has a passion for wildlife and protecting our oceans. She has been seen on Blue Planet Live Lessons, CBeebies, CBBC, National Geographic, BBC Two, Animal Planet and more!

CHECK OUT:

THE SECRET LIVES OF ANIMALS
SAT 11 FEB See p17

DR JESS FRENCH



Jess is a vet, zoologist, presenter and author best known for her CBeebies show Minibeast Adventure with Jess and her books on animals, conservation and protecting the natural world. Jess is also an explorer, adventurer and traveller.

CHECK OUT:

ANIMALS THAT HELP OUR LIVES
SAT 18 FEB See p46

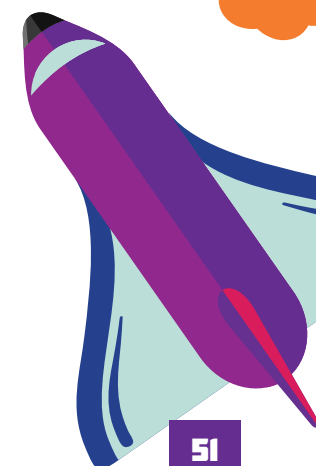
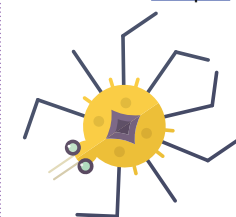
PROF BEN GARROD



Ben is an evolutionary biologist and primate conservationist, broadcaster for television and radio including Secrets of Bones and Attenborough and the Giant Dinosaur, and is the author of many books. He is the Professor of Evolutionary Biology and Science Engagement at the University of East Anglia.

CHECK OUT:

ANIMAL TOP TRUMPS WITH PROF BEN GARROD & LIZZIE DALY
SAT 11 FEB See p16



Norwich:

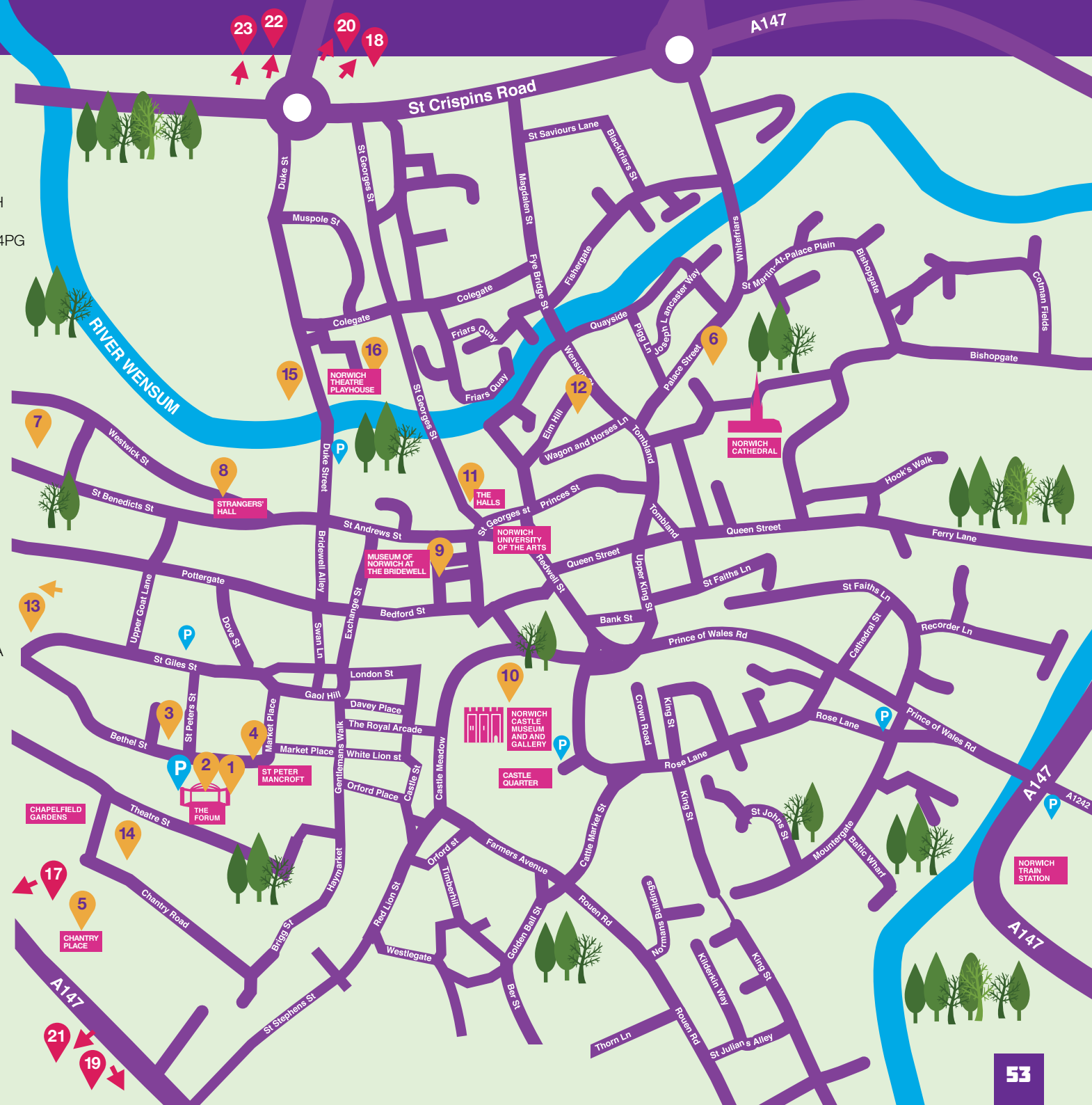
- 1 The Forum, Millennium Plain, Norwich, NR2 1TF
- 2 Millennium Library, The Forum, Millennium Plain, Norwich, NR2 1AW
- 3 Sir Isaac Newton Sixth Form, The Old Fire Station, 30 Bethel Street, Norwich, NR2 1NR
- 4 St Peter Mancroft Church, Hay Hill, Norwich, NR2 1QQ
- 5 Chantry Place, 40-46 St Stephens Street, Norwich, NR1 3SH
- 6 Norwich School, 69-71A The Close, Norwich, NR1 4DD
- 7 Norwich Arts Centre, 51 St Benedicts Street, Norwich, NR2 4PG
- 8 Strangers' Hall, 4 Charing Cross, Norwich, NR2 4AL
- 9 Museum of Norwich at the Bridewell, Bridewell Alley, Norwich, NR2 1AQ
- 10 Norwich Castle Museum and Art Gallery, Castle St, Norwich, NR1 3JU
- 11 The Halls, St Andrew's Plain, Norwich, NR3 1AU
- 12 curious directive, 49 Elm Hill, St Simon and St Jude Church, Norwich, Norfolk, NR3 1HG
- 13 Sainsbury Centre, University of East Anglia, Norwich, NR4 7TJ
- 14 Norwich Theatre Stage Two, Theatre St, Norwich, NR2 1RL
- 15 NUA, Duke Street Lecture Theatre, 4 Duke St, Norwich, NR3 3AJ
- 16 Norwich Theatre Playhouse, 42-58 St. George's Street, Norwich, NR3 1AB

Outside Norwich:

- 17 Diss Corn Hall, St Nicholas Street, Diss, IP22 4LB
- 18 Gresham's School, Cromer Road, Holt, NR25 6EA
- 19 East Norfolk Sixth Form College, Church Lane, Great Yarmouth, Norfolk, NR31 7BQ
- 20 NWT Cley Marshes, Coast Rd, Cley Next the Sea, NR25 7SA
- 21 NWT Hickling Broad, Stubb Road, Norwich, NR12 0BW
- 22 Burnham Deepdale Backpackers, 1 Deepdale Granary, Burnham Deepdale, PE31 8DD
- 23 National Trust, Sheringham Park, Upper Sheringham, Norfolk, NR26 8TL



See norwichsciencefestival.co.uk/plan-your-visit for accessibility info.



PLAN YOUR VISIT

Norwich Science Festival events take place at The Forum, in venues across the city, and at Science Satellites in Holt and Gorleston-On-Sea. See map on p52-53.

Norwich is easy to reach via good public transport links. If you're coming to events in the city, The Forum's car park is convenient and central, and parking here helps to support events such as Norwich Science Festival. Find out more at theforumnorwich.co.uk/parking.

Please note that the main toilets in The Forum will be out of action during the Festival, due to a major refurbishment and improvements. Please allow extra time before your event to use the temporary toilets outside The Forum or toilets on floors -1 and -2.

ABOUT THE FORUM

The Forum is an iconic landmark, where everyone is welcome. Open year-round, The Forum is home to a diverse programme of free events and festivals. As a charity, we reinvest our income to protect the building for future generation, and use it to deliver Norwich Science Festival, Norfolk Makers Festival, Norfolk Heritage Open Days, and a range of other events that celebrate culture and learning.

Find out more about our venue at theforumnorwich.co.uk.



COMING UP AT THE FORUM

NORFOLK MAKERS FESTIVAL

11-19 Mar 2023

The Norfolk Makers' Festival 2023 is a nine-day event, presented by The Forum, which showcases the talents and skills of local people, celebrates Norfolk's creative heritage, and inspires thousands of visitors to explore new artistic opportunities.

norfolkmakersfestival.co.uk

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the forum

The Forum would like to say a huge thank you to all our partners, sponsors and funders – without their valued support the Festival would not be possible.

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Changing lives | Rethinking society



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Sponsor of climate change & sustainability day



Sponsor of health & wellbeing day



Sponsor of launch event



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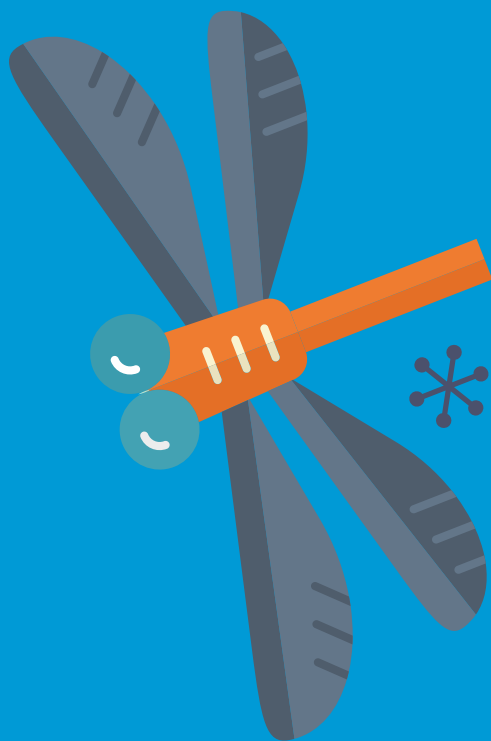


Brochure printed by:



The NSF team:

Claire Mutimer, Jan Robertson, Sophie Conroy, Anna Stevenson, Eleanor Hewitt, Mia Morgan, Sam Joyce, Rowan Whiteside, Millie Batch, Daisy Lester, Hannah Tough, Hannah Linsdell, Rachel Innes, Tanner Barnes, plus support from the wider Forum staff and events teams...



**NORWICH
SCIENCE
FESTIVAL**
11-18 FEBRUARY 2023